10¢ A COPY

The OIL WEEKLY

July 23, 1926 Volume 42. No. 5

"They cost you no more but do Last Longer"

Every time you make-up or break-out a

HUGHES TOOL JOINT

you have a greater realization of its

Superior Performance

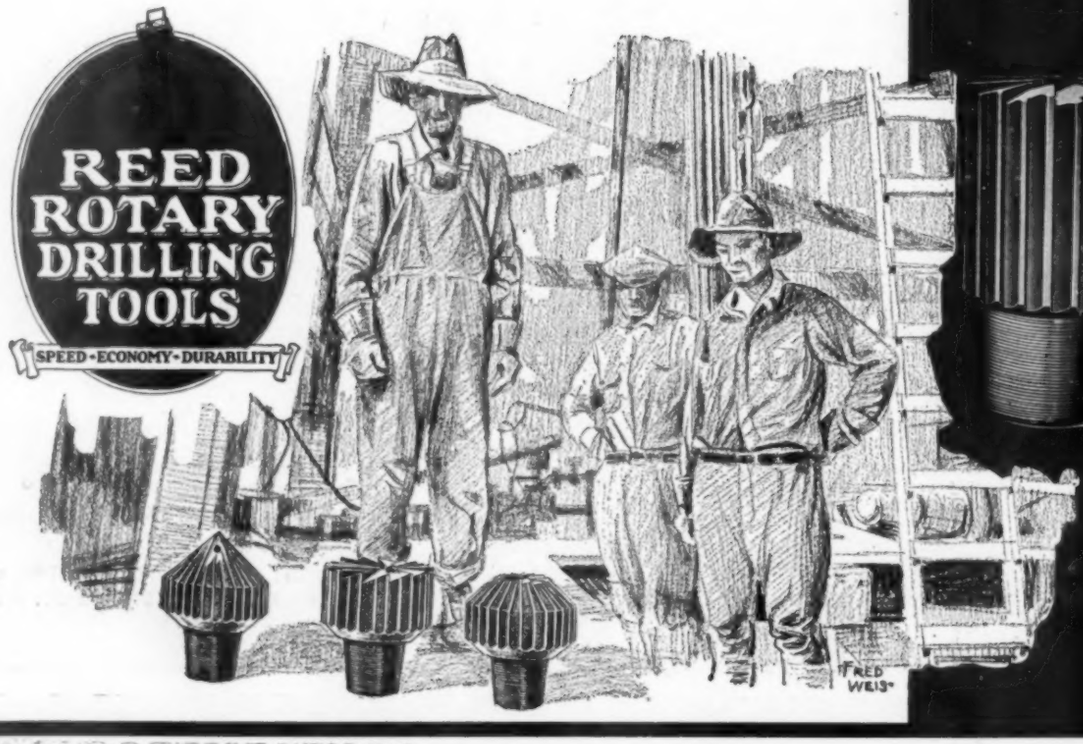
Hughes Tool Co.
Main Office and Plant
HOUSTON, TEXAS
Service Plants
Los Angeles, Calif.
Oklahoma City, Okla.
Export Office
New York City

REED
MILLING TOOLS
Do the Job Better—*In Less Time*

When there's a milling job to do, you need the best tools that can be had. Remember, that a milling job is expensive in two ways—in the lost drilling time; and the cost of doing the milling.

Reed Milling Tools will save money for you—because they do the job better, and in a shorter time. They are made of specially-selected steel, and are scientifically heat-treated to insure necessary hardness and strength. It is advisable to keep an assortment of Reed Milling Tools on hand at all times. It is a policy of the Reed Organization to accept the return of unused tools within a reasonable time after the completion of a milling job.

Reed Roller Bit Co.
HOUSTON LOS ANGELES



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CONFIDENCE

When a graceful young lady, with much to live for, leaves the safety of her trapeze to hurl herself through space to the hands of a waiting partner, it may look like sheer recklessness. In reality, it is common-sense confidence—based on performance.

Performance is likewise the basis of the confidence GASO Pumps enjoy—performance exemplified by the manner in which GASOS operate year after year for many of the biggest companies in the industry: Prairie, Sinclair, Texas, Standard and Midwest, to cite just a few.

SMALL PUMPS *with* BIG IDEAS *of* DURABILITY *and* EFFICIENCY

Gaso Walking Beam Pump for Gas or Vacuum. Designed to stand world of abuse.

Gaso Walking Beam Pump for Oil or Water; especially adapted for use where no pumping power is available.

Gaso Rodline Pump for general service; used in connection with rod or shackle line between power and well.

GASO PUMP & BURNER MANUFACTURING CO.
TULSA, OKLAHOMA

GASO PUMPS
for every oil industry need

If I were offered the exact duplicate of an IDECO derrick at a lower price – I would still do business with INTERNATIONAL

"The International Derrick & Equipment Company is a leader in its field. It has a reputation to uphold and will back the performance of its products to the limit. It supplies me with engineered products of proven ability, and the kind of service that obviates trouble and delay.

"IDECO Galvanized Steel Derricks and Equipment are built right, priced right and delivered when promised. Plus those advantages, I have absolute confidence in the ability of 'International' engineers. It is a strong organization and my confidence in it is shared by most of the leading oil companies both here and abroad."

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

Say you saw it in The OIL WEEKLY

There are Substitutes for "International" Derricks – but they are only Substitutes.

With drilling expenses increasing daily, the operator of today must eliminate all wastes of production. To offset mounting drilling costs, the oil man must reduce the annual expense of maintenance.

But the operator cannot reduce costs by buying cheap equipment. Substitutes for efficient drilling and pumping rigs seldom satisfy. Despite the lower initial cost of wood, operators who have kept a cost record over a period of years and are able to compare it with a structural steel program, know that wood is a failure and very expensive in the long run.

There are literally thousands of wooden derricks standing over wells in the oil fields of America today. Most of them have outlived their usefulness. They are eating tremendous holes in the profit. They must be replaced.

The International Derrick of galvanized structural steel is a genuine economy. A substantial saving over even a short period of years can be definitely proven. International Ideco Derricks and galvanized steel equipment minimize fire hazards and lower insurance rates. They represent 100 per cent salvage should the well play out. They show an absurdly low yearly maintenance cost. Aren't they sufficient reasons for you to adopt an "Ideco" program?

Write or phone our nearest branch

The International Derrick & Equipment Company

Columbus, Ohio Torrance, Cal.

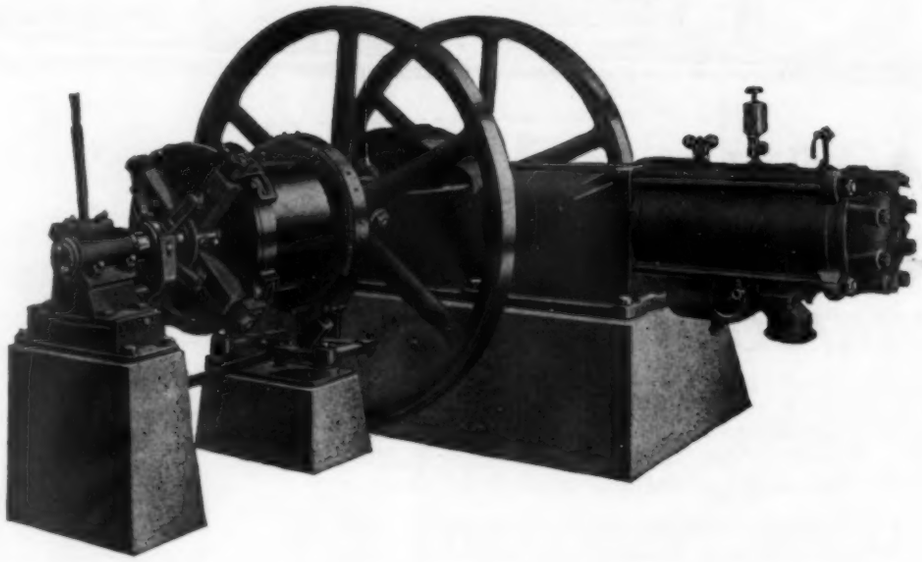
Dallas, Denver, Tulsa, Shreveport, Houston, Casper, Bakersfield, Oil City, Wewoka, Smackover, Eldorado, Kansas, Wichita Falls, Los Angeles Corsicana, Mexia, Tonkawa, New York

California National Supply Co., Distributors in California

The largest company devoted exclusively to the manufacture of steel (galvanized) equipment for the oil, gas and artesian industries.

INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

Franklin Valveless Oil Drilling Engine For Economy



Costs One Half as Much to Operate as A Ford Automobile

When you realize that it costs one-half as much for fuel, per hour, to drill oil wells with a FRANKLIN VALVELESS OIL DRILLING ENGINE than it costs for fuel for your FORD, it is worthy of investigation.

A light automobile, running thirty miles per hour, will use one and one-half gallons of gasoline. This, at twenty cents (20c) per gallon, costs thirty cents (30c). The average fuel consumption for a FRANKLIN VALVELESS OIL DRILLING ENGINE is about one and one-half gallons of oil per drilling hour, which at eight cents (8c) per gallon, costs twelve cents (12c), or less than one-half.

FRANKLIN OIL ENGINES are convertible for use of gas.

Let Us Send You the Names of Satisfied Users in Your Field

DISTRIBUTED BY:

ATLAS SUPPLY CO.
Muskogee, Okla., and Branches
NEW MARTINSVILLE SUPPLY CO.
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INTERNATIONAL SUPPLY CO.
Tulsa, Okla. and Branches
WOOSTER TOOL & SUPPLY CO.
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W. HUNTER ATHA
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WASHINGTON ENGINE & PUMP CO.
Washington, Penna.
BRADFORD SALES CO.
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Bolivar, N. Y.

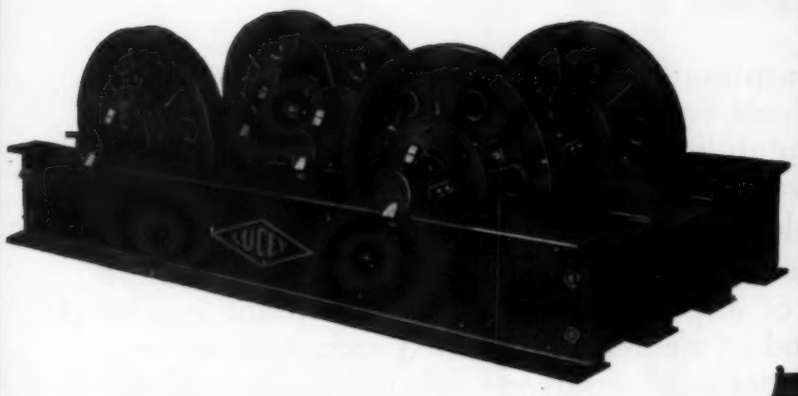
Franklin Valveless Engine Company

Franklin Established 1879 **Penna.**

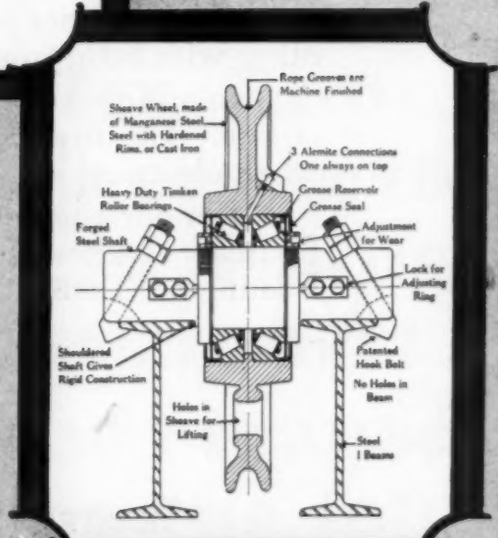
MANUFACTURERS OF FUEL OIL AND GAS DRILLING, PUMPING AND POWER ENGINES, CAST IRON WORKING BARRELS.

47 Years of Exclusive, Continuous Oil Field Service

LUCEY CROWN BLOCKS



Wherever THE NAME IS A LUCEY GUARANTEE *There's Oil*


Rope Grooves are Machine Finished
Sheave Wheel, made of Manganese Steel, Steel with Hardened Rims, or Cast Iron
3 Alemite Connections One always on top
Heavy Duty Timken Roller Bearings
Grease Reservoir
Grease Seal
Forged Steel Shaft
Adjustment for Wear
Lock for Adjusting Ring
Shouldered Shaft Gives Rigid Construction
Patented Hook Bolt No Holes in Beam
Holes in Sheave for Lifting
Steel I Beams

The most simple and most efficient Unit made for Heavy Rotary Drilling!

The main reason for the successful operation and long life of Lucey Crown Blocks in heavy duty drilling may be found in the Roller Bearing Construction.

In the Lucey Block the roller bearings are built in the sheaves and, therefore, never get out of alignment under heavy loads. That's why LUCEY Blocks stand up in SERVICE—where other blocks fail.

MADE IN THREE SIZES

Seven Pulley of Combination Rotary and Standard Drilling
Five Pulley (as shown) for Rotary Work.
Two Pulley for Pumping.

Write for complete information.

LUCEY MANUFACTURING CORP.

CHATTANOOGA, TENN.

DISTRIBUTORS:
T. T. Word Supply Co., Houston, Texas
Shreveport, La.

Bradford Supply
Wichita Falls, Texas.

International Supply Co.
Garber, Wewoka, Stroud
Okla.

Lucey Manufacturing Corporation of Tennessee. Mid-Continent General Office and Central Warehouse, Tulsa, Okla. with branches at Tonkawa and Healdton, Okla.

Pipe Line Pumping With Electricity

Just for a minute consider these things about pipe line pumping and equipment—the initial cost, the flexibility and adaptability to varying production of the territory, the convenience and the cleanliness.

In all of them electricity has a big advantage.

The initial cost of electrical equipment is nowhere near the cost of any other, the size of the plant can be either increased or decreased to suit production at very small cost, motors can be moved from one location to another with little trouble and expense.

In addition to these things, the actual operating cost is less. The first cost and all subsequent costs are less when electrical equipment is used.

Let our engineers talk with you and give you actual figures. Address communications to Lock Drawer 809, Beaumont, Texas.

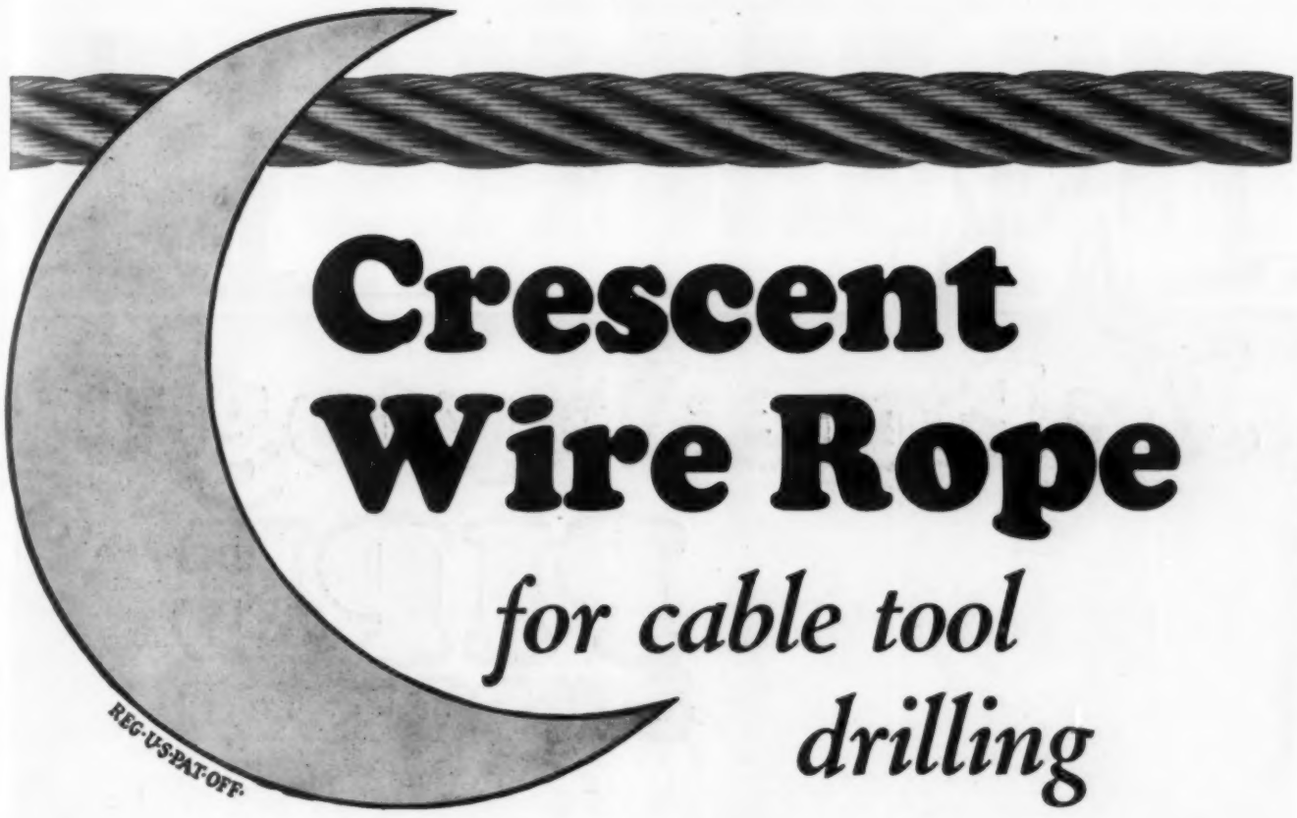
EASTERN TEXAS ELECTRIC COMPANY
Beaumont, Texas

GULF STATES UTILITIES COMPANY
Orange, Texas

LOUISIANA ELECTRIC COMPANY, INC.
Lake Charles, La.

WESTERN PUBLIC SERVICE COMPANY
Liberty, Texas

Under the executive management of Stone & Webster, Inc.



Crescent Wire Rope

for cable tool drilling

Good crews like to work with Crescent Wire Rope. They know that it is easier to handle, requires less fishing —drills off and lasts longer. Crescent is in demand because it has made good on the job.

Stocked in Field Stores by

Jarecki Manufacturing Co. and Branches, Pittsburgh, Pa.; Jarecki Manufacturing Co. and Branches, St. Louis, Mo.; Marion Machine and Foundry Co. and Branches, Marion, Ind.; Fort Worth Well & Machinery Co., Fort Worth, Texas

American Cable Company, Inc.

105 HUDSON STREET, NEW YORK CITY

District Offices: Chicago · Cleveland · Philadelphia · Tulsa

With the *Regan Pipe Suspension & Control Head* it's as simple as A, B, C to retain the desired suspension in the casing strings after making surface landing and casing has been set.....
Regan
Forge Engineering Co.
San Pedro California
Quality
Ask for Instructive Literature

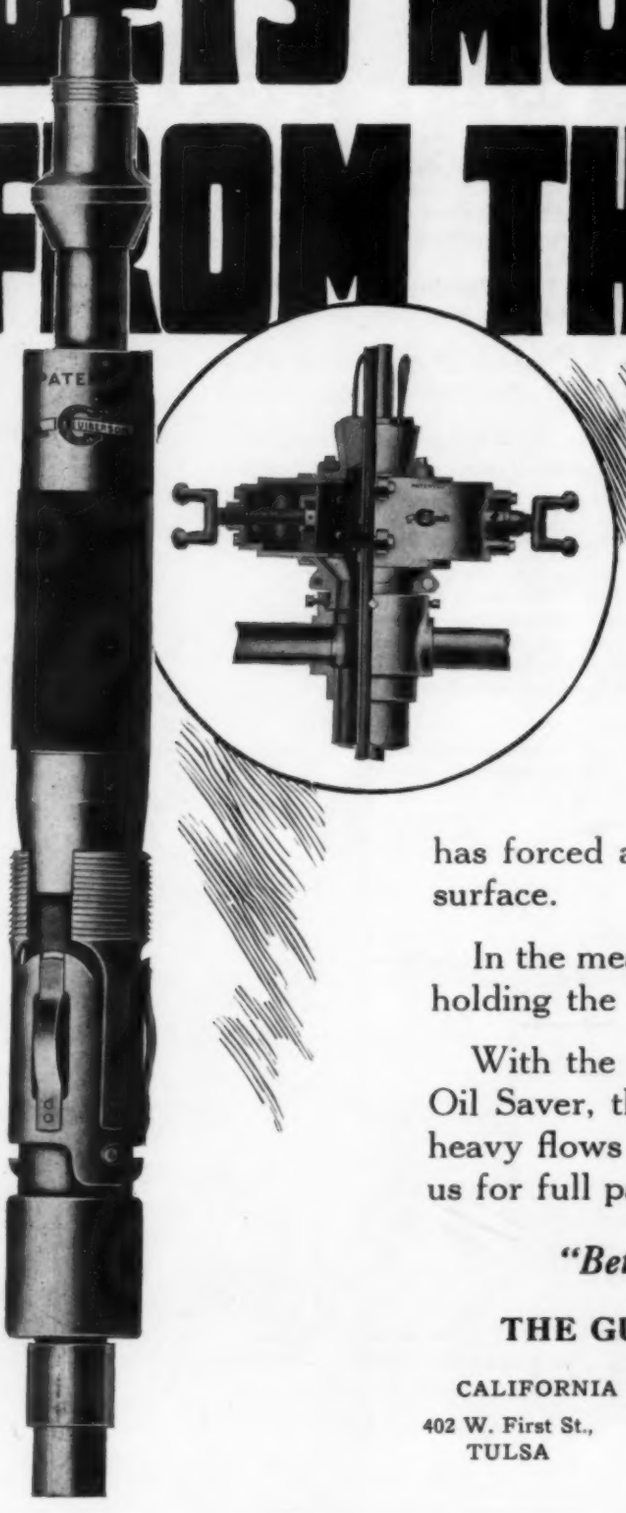
New York City,
Evening Post Bldg.,
75 West Street.

Houston, Texas,
Regan Sales Co.,
1521 Post Dispatch Bldg.

Tulsa, Oklahoma,
227 Mayo Bldg.

Say you saw it in The OIL WEEKLY

GETS MORE OIL FROM THE SAND



By confining flow to a string of tubing and preventing the escape of gas, the GUIBERSON Control Head Packer holds the gas pressure in the well until it has forced a MAXIMUM yield of oil to the surface.

In the meantime it preserves the gravity by holding the surface pressure.

With the aid of the GUIBERSON Tubing Oil Saver, this packer can be run in against heavy flows without loss of oil or gas. Ask us for full particulars.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

CALIFORNIA BRANCH: 1506 Santa Fe Ave., Los Angeles

402 W. First St., TULSA — 318 First Nat'l Bank Bldg., HOUSTON — 506 Trust Bldg., NEWARK, O.

GUIBERSON

BETTER BE SAFE THAN SORRY

Say you saw it in The OIL WEEKLY

PARKERSBURG
Standardizes on
ALUMINUM PAINT

ALUMINUM PAINT is the latest development in the search for protective paints for industrial uses. The advantages of Aluminum Paint include better protection of metals against corrosion; and an ability to reflect heat rays, with reduced temperatures of the material painted.

Parkersburg Aluminum Paint has been developed and perfected after exhaustive research, study, and tests with other paints of this type.

Parkersburg Aluminum Paint is a *better oil field paint* — and gives *better protection to oil field equipment* than any other paint.

Parkersburg Aluminum Paint has exceptional qualities and abilities to reflect heat rays — with notable reductions in the temperatures of the equipment painted.

Protects Steel Surfaces

A film of metallic aluminum, "leafed" layer on layer (much like fish scales) protects the paint vehicle from exposure to the elements.

Only by extremely slow weathering away of the upper layers of aluminum is the paint vehicle exposed. In protecting the paint vehicle, the surface underneath the paint is likewise protected.

Reduces Evaporation Losses

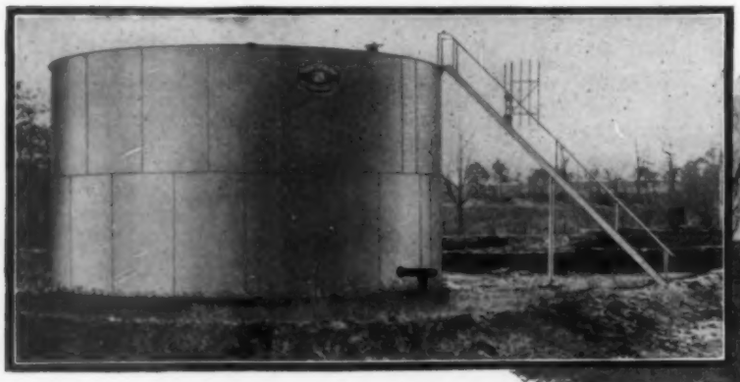
Aluminum is opaque — and has a high reflectivity for light. Because it *reflects* so much light — and *absorbs* so little — the temperature of the paint, and of the material underneath, remains substantially lower than would be the case with paints of less reflectivity.

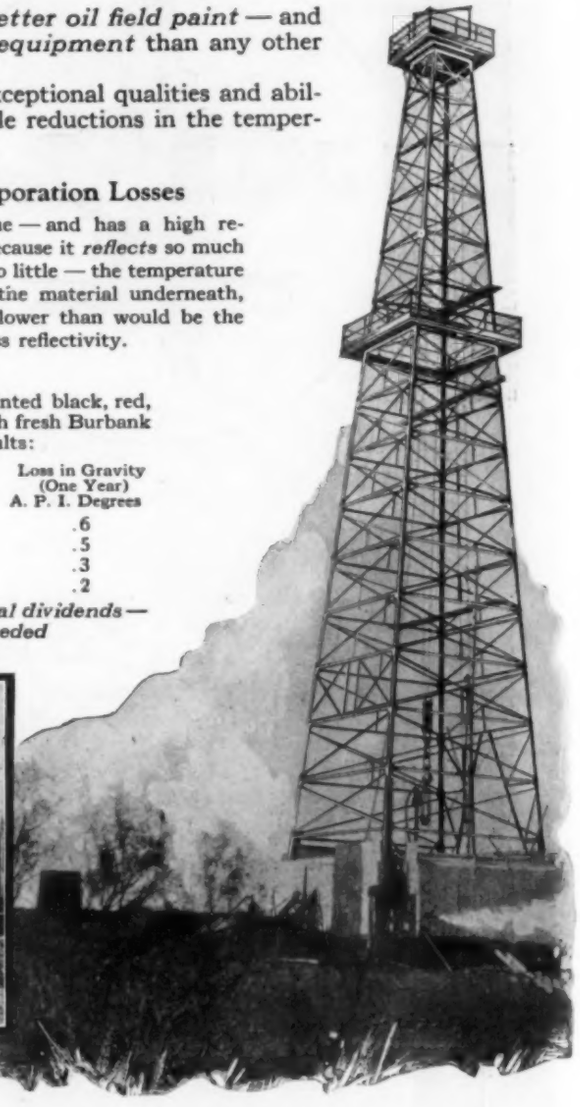
Results of Actual Tests

In a Bureau of Mines test, four 55,000-barrel tanks were painted black, red, gray and aluminum, respectively. Then the tanks were filled with fresh Burbank crude. Careful observations and records show the following results:

Color of Tank	Initial Contents Barrels	Evaporation Loss (One Year) Barrels	Evaporation Loss (One Year) Per Cent	Loss in Gravity (One Year) A. P. I. Degrees
Black	52,058	649	1.24	.6
Red	53,294	609	1.14	.5
Gray	53,192	547	.99	.3
Aluminum	53,418	447	.83	.2

The savings in oil indicated by this test pay increased annual dividends — more than enough to pay for repainting when needed





When you buy Parkersburg aluminum-painted Steel Tanks, Derricks and other Steel Equipment, you buy materials manufactured on a *quality* basis — and protected by the latest process developed through constant research for protective coatings.

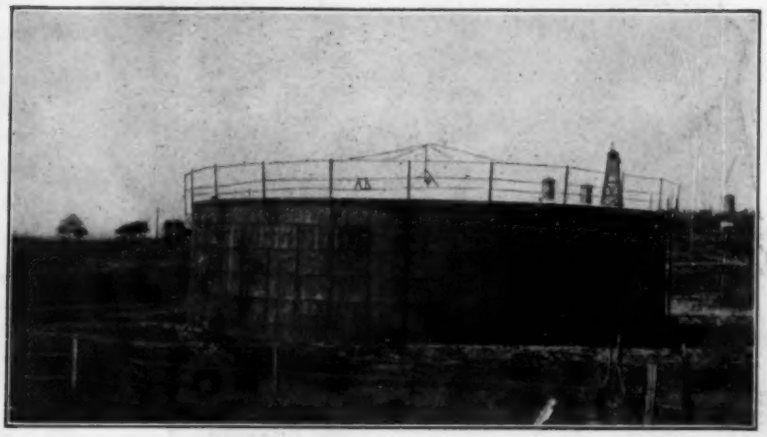
The Parkersburg Rig & Reel Company

Main Office and Works at Parkersburg, W. Va.

Say you saw it in The OIL WEEKLY

Lightning protection

for your Tankage



SAFEGUARD your tankage against lightning fires. We have developed effective protection for wood deck tanks by means of grounded conductor network (patents pending) shown above.

Complete information on request.

JOHNS-MANVILLE INC., 292 Madison Ave. at 41st St., New York

Branches in all large cities For Canada: Canadian Johns-Manville Co., Ltd., Toronto

JOHNS-MANVILLE
Oil Industry Department

Say you saw it in The OIL WEEKLY

When Your Well Starts *Cutting* *You* Can Start *treating!*

No Costly Delays

The TRET - O-LITE Process is RAPID in every way. The company carrying in stock the correct type of TRET-O-LITE, can begin actual treatment within a few hours after the well starts cutting.

Treatment itself is rapid, time being required only for mixing and settling to take place. Mixing is often completed in the flow line, during the normal flow of the cut oil from well to settling tank. Settling requires only the time for normal oil and water to separate.

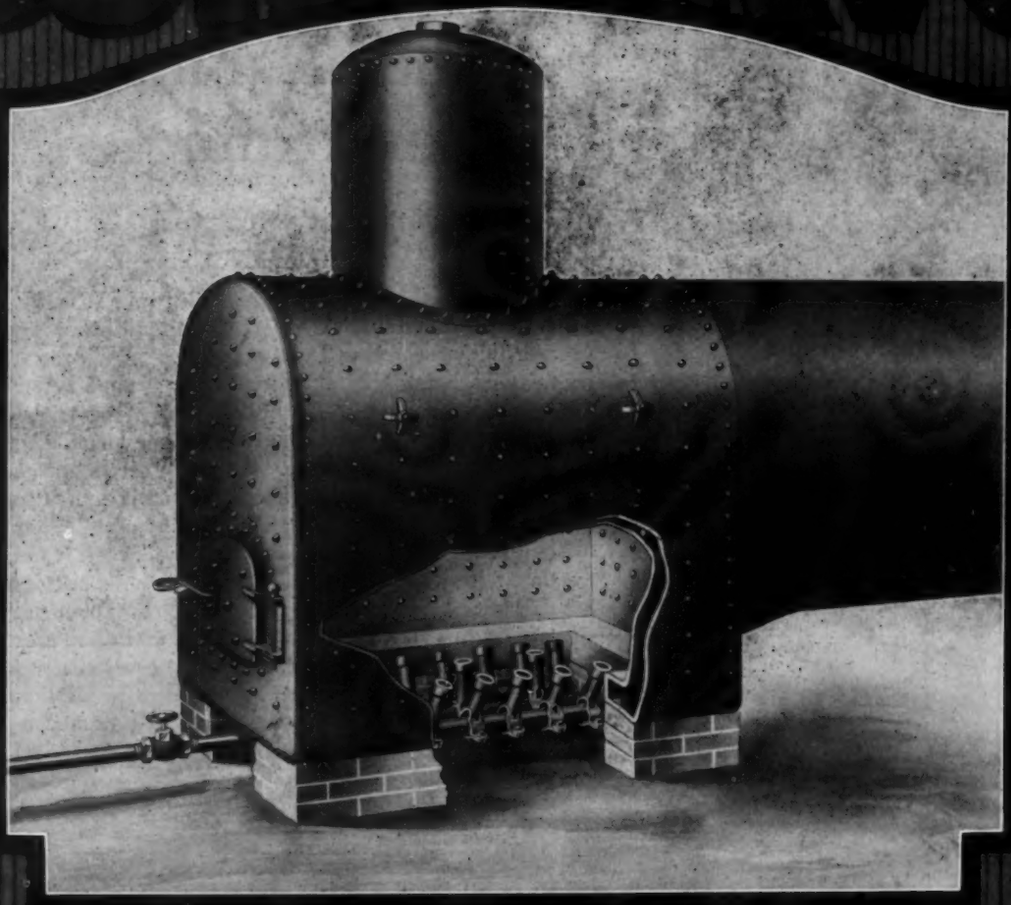
Investigate this most widely used of all treating methods. Our nearest field representative will be glad to call without obligation.

Wm. S. Barnickel & Company
St. Louis, Mo.
Offices and Plant: Webster Groves, St. Louis County, Mo.

Process Patented

Tret-O-lite
Reg. U. S. Pat. Off.

CONSERVO



Low pressure gas burners

"25% more heat, with 20% less gas"—is a typical report from the oil producer, on Conservo Burners. This burner utilizes the famous Bunsen principle, so proportioning the air and gas mixture as to consume ALL the gas and utilize ALL its heat. Even distribution of the fire is secured over the entire heating surface, but with NO fire on the mud ring. Widely used by leading operators.

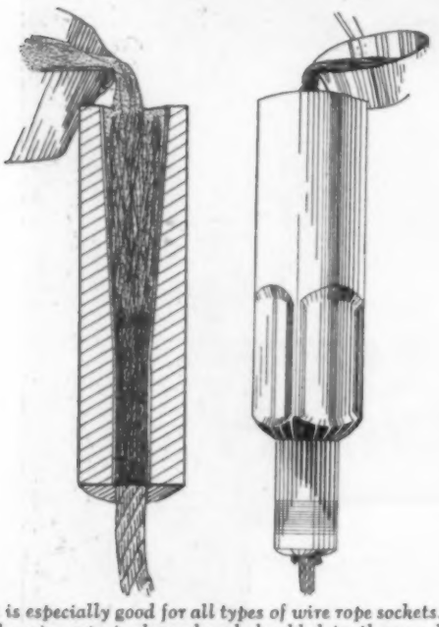
"If CONTINENTAL Sells It There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis
Export Office: 2 Rector St., New York
London Office: 316-317 Dashwood House, Old Broad Street, London, E. C. 2, England

CONTINENTAL

Say you saw it in The OIL WEEKLY

Eagle Rope Socket Metal melts at 750° Fahrenheit — it is practical and easy to pour in the field.



It is especially good for all types of wire rope sockets. The wire rope is cleaned and shredded in the usual way—and this new metal grips it tenaciously.

Write for this interesting booklet FREE

"EAGLE Rope Socket Metal is the ideal metal for drilling"

THIS is the letter just received from Mr. P. E. Thayer, Thayer Drilling Company, Eldorado, Kansas:

> "We have had such good success with your EAGLE Rope Socket Metal, I feel that I should pass the word down the line. I was given some of this metal for trial, being told that it would give me better service than the No. 4 babbitt. On my first trial I drilled three days without changing the metal. The three days run did not show any wear on the metal, but not knowing anything about the wearing qualities I was afraid to run longer without changing. After babbitting the socket the second time, I used it ten days without changing, still finding no wear, and by this time I was becoming convinced that the metal was far superior to any No. 4 babbitt that I had ever used for my sockets. After the ten day run, I changed again, this time giving it a real test. I had much under-reaming the following days, and I seemed to have forgotten about the condition of the metal I had in the socket; this time I ran twenty-nine days without changing, and still it showed no wear.
>
> "I am convinced that your Rope Socket Metal is the ideal metal for drilling and is far cheaper than No. 4 babbitt."

Eagle Rope Socket Metal [scientifically developed for socketing wire rope] is sold by all dealers, or may be obtained direct from Eagle-Picher at Joplin. We will gladly send you a free descriptive booklet upon request.

The EAGLE-PICHER LEAD COMPANY

Chicago · Joplin · Cincinnati

EAGLE
Rope Socket Metal

PATENT PENDING

Producers of lead and allied products · Eleven Plants · Branches in all principal cities

What Happens?

—When Your Machinery Starts and Stops

Much of the wear and tear on machinery comes from starting and stopping. For then the fluid film of lubrication is broken, ***and unless you are using the right lubricant,*** friction takes a heavy toll.

As long as the fluid film is intact, the quality of the lubricant is not so important—but when the fluid film breaks, as it does every time you start and stop a machine—the quality of the lubricant supplied to the bearings is of prime importance, if friction is to be kept from doing serious damage.

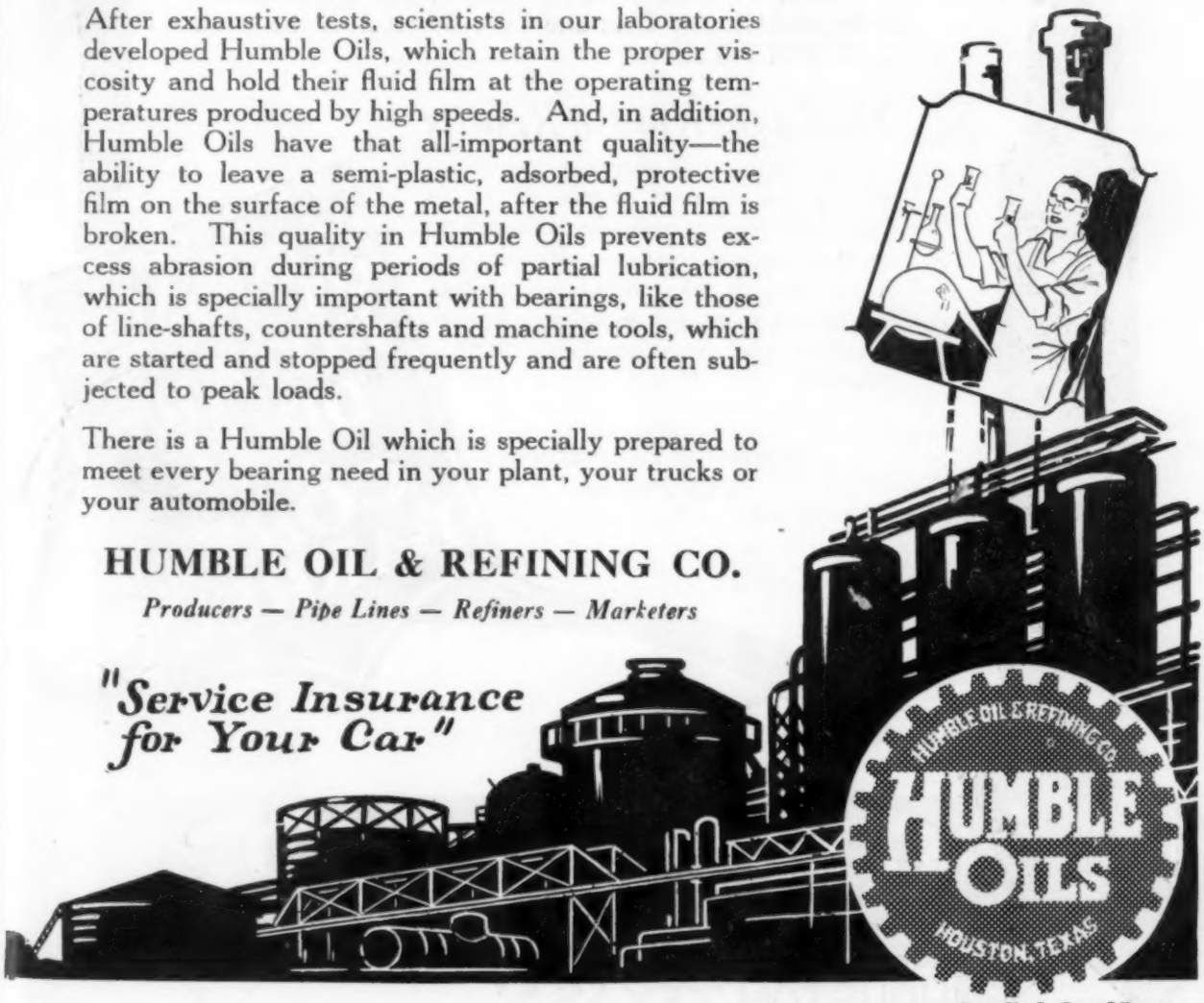
After exhaustive tests, scientists in our laboratories developed Humble Oils, which retain the proper viscosity and hold their fluid film at the operating temperatures produced by high speeds. And, in addition, Humble Oils have that all-important quality—the ability to leave a semi-plastic, adsorbed, protective film on the surface of the metal, after the fluid film is broken. This quality in Humble Oils prevents excess abrasion during periods of partial lubrication, which is specially important with bearings, like those of line-shafts, countershafts and machine tools, which are started and stopped frequently and are often subjected to peak loads.

There is a Humble Oil which is specially prepared to meet every bearing need in your plant, your trucks or your automobile.

HUMBLE OIL & REFINING CO.

Producers — Pipe Lines — Refiners — Marketers

"Service Insurance for Your Car"



Reg. U. S. Pat. Off.

Beats Schedule Five Days

Performance That Cuts the Cost of Drilling Oil Wells

ONE THOUSAND FEET OF HOLE required twelve days with old style equipment, but the Standard Collapsible Rotary Drill and Core Barrel does the work in SEVEN DAYS.

That's the Kind of Results

—every driller has—because the scientifically heat-treated cutters do more work with less changes—because you do not have to raise and lower drill stems to change bits or take cores—and because this drill is so rugged and simple in construction that it is absolutely FOOL-PROOF.

Write for Literature and Prices

THE STANDARD COLLAPSIBLE ROTARY DRILL AND CORE BARREL

O. M. CARTER

W. T. HILTPOLD SALES AGENT

206-7-8 SCANLAN BLDG.
HOUSTON TEXAS

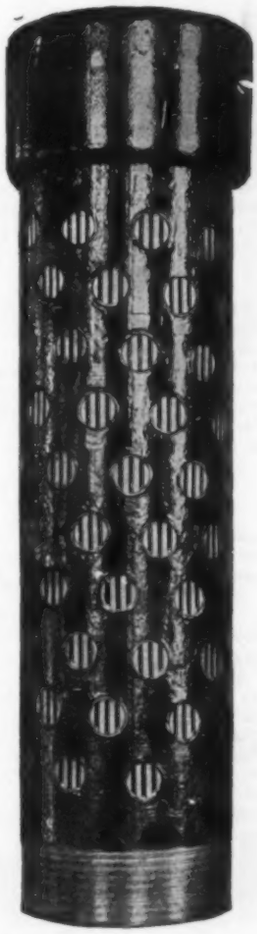
Say you saw it in The OIL WEEKLY

Inlet Area Facts

Well screens are designed to exclude sand. It does not follow, however, that the gauge of the slot be so fine as to exclude all sand immediately the screen is set.

Authorities agree that the most important feature of the operation of a screen is the formation of a bridge of coarser sand particles over the apertures or slots, acting as a sub strainer. This has been proven by experiment and photographed.

Only that portion of the slot directly over the aperture into the interior of the pipe is effective. Only over this portion of the screen can a bridge be formed to exclude the finer particles, for the formation of this bridge depends upon the velocity of the incoming fluid. All other parts of the screen merely collect and pack tightly with sand, reducing these areas to the status of blank pipe.



Hence the fallacy of claims pertaining to the advantages of a devious passage through the screen when wide open direct passage is adjacent to it. Go to the nearest river or stream and observe the eddies along the shore, and the collections of silt therein.

McEvoy Strainer has no useless screening surface, all of the screening surface is effective.

McEvoy strainer has the largest actual inlet area, hence velocity of entering fluid is reduced, minimizing sand cutting tendency.

McEvoy has no feather edges which so easily sand cut.

Specify McEvoy for Your Next Screen Setting

J. H. McEvoy & Co.

HOUSTON -:- LOS ANGELES

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The OIL WEEKLY

July 23, 1926 Volume 42, Number 5

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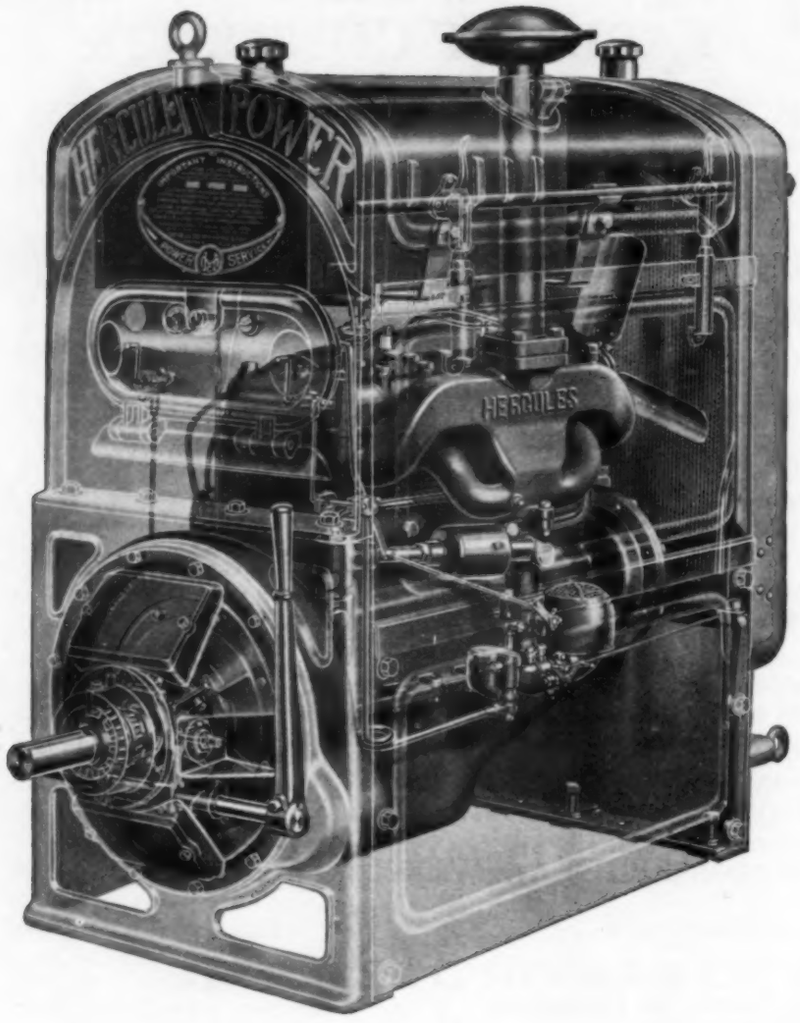

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ENGINES

Say you saw it in The OIL WEEKLY

Salt Water in Nigger Creek Well Halts Lease Buying Temporarily

Transcontinental withholding information on water showing; second well nearing completion

By H. H. King
Staff Representative

Mexia, Texas.—The East Central Texas fault region is receiving one of the most intensive wildcat lease buying plays ever before experienced by reason of the Transcontinental Oil Company's discovery at Nigger Creek, proving that the Mexia fault proper is not the only source of flush production in the Woodbine horizon. The lease buying that has followed in the wake of the completion of a 2900-barrel flush producer on July 8 has overshadowed the drilling campaign now getting started on the Nigger Creek structure, and extends for a length of about 50 miles on the west side and parallel with the Mexia fault, while many operators are blocking acreage on the east side of the Mexia fault, but mostly opposite the five established fields scattered up and down the prolific oil strip.

A temporary setback in lease buying took place towards the close of last week when the Nigger Creek discovery well began making cut oil with a small quantity of water, and acreage prices settled down after having climbed to higher levels each day. The appearance of cut oil in the Nigger Creek production at this time worked to a great advantage to all companies and operators seeking wildcat leases, and indirectly saved these lease buyers thousands of dollars in bonuses, as prices sagged after reports were circulated regarding the adverse change in the outlook at the new field. Some of the companies withdrew their large forces of lease buyers for a day or two on the strength of the cut oil in the Nigger Creek discovery, but this action was taken mostly to check rising lease prices, and their purpose was accomplished.

Cut oil appeared in the Transcontinental discovery well at the beginning of the second week after its completion, but not in sufficient quantities to cause undue alarm. The production of this well amounts to more than 25,000 barrels to date, and during the eight days ending 7 a. m., July 19, a total of 21,329 barrels has been produced by natural flow, being an average of 2666 barrels daily. At the opening of the present week the well was flowing 2458 barrels, with 2½ per cent water and b. s. in evidence. Cut oil never reached above 4 per cent. A Tret-O-Lite plant has been hooked up on the flow line from the well. Officials of the Transcontinental in charge at Nigger Creek have shut down on all information to scouts of other companies regarding the cut oil showing in the discovery well, and such a policy is unusual in the East Central Texas district, where all the companies have worked hand in hand on exchanging information heretofore.

Leasing Active

Since the major companies held very little protection acreage on the Nigger Creek structure, except for a few small tracts that were acquired at prices ranging from $750 to $3000 per acre after production was secured, they have concentrated their efforts on wildcat leasing, and many of the companies drafted buyers from other districts in which they are operating in order to make their play as soon as possible. Trading has swept into every section adjacent to the Mexia fault that has any evidence of being faulted, and prices are averaging $25 per acre, while many rank wildcat tracts have brought as high as $60 per acre to farmers and lease brokers. Territory lying directly northeast of the Nigger Creek structure received the first wildcat play, then the buyers jumped up to Tehuanaca, following up the line and opposite Wortham, Currie, Richland and as far north as the Corsicana-Powell field. The Pure Oil Company has been one of the most active in this buying, and also is credited with having purchased two drilling blocks east of the old Mexia field. Irregular Woodbine sand conditions that are known to exist to the southwest of the Nigger Creek field have not distracted the companies, and Gulf and Texas have been especially active around the interior town of Horn Hill, taking a trend towards Big Hill.

Opportunities for responsible wildcat operators with sufficient funds to assemble drilling blocks on faulted areas were never better, as the major companies and independent operators are showing a willingness to buy lease protection around tests, and in the future the buying will not be restricted to one zone of faulting as has been the case heretofore. This buying spree will continue until a heavy toll of dry holes is taken, while if a few successful hits are scored the financing of wildcat tests by the sale of acreage will be comparatively easy as long as the crude market will absorb the oil produced.

Second Test Due

The second completion for the Nigger Creek structure is scheduled to take place before the close of the present week, as the Transcontinental Oil Company's Cochrum 1, which is a northeast offset to the discovery well, has drilled plug after cementing 6⅝-inch casing at 2842½ feet. This well logged the Austin chalk at 2208-2420 feet, with a surface elevation of 500 feet, and drilled to the top of the Woodbine sand at 2843 feet before setting casing. It is running about 11 feet lower on the bottom of the chalk than the discovery well, and about one foot lower on the Woodbine sand pay correlation, with every indication of making a good well.

Transcontinental Oil Company's T. D. Ross 1, which was the first test drilled on the Nigger Creek structure and showed oil in the same horizon as that furnishing production in the Rosson discovery producer, has been abandoned at 3057 feet, after failing to make a water shut off in plugging back. This test is considered as a marker for the east edge of the field, and is 1220 feet southeast of the producer. Allowing for the field to extend about two locations west and nearer the fault from the Rosson producer, it is safe to predict that the Nigger Creek field will be at least 2000 feet in width, or about like Wortham. The length of the producing structure remains to be determined, while surface geology indicates that it may not be as long as the Wortham field.

Great haste is being made by companies holding close in lease protection in starting their development campaigns, and three tests were drilling within 10 days after the first completion, including one each by Transcontinental, Pure and the J. K. Hughes Development Company. The offset to the discovery well was started by Transcontinental prior to the completion of the well. Rigs were completed, or in process of construction, on 18 locations at the close of the week, with 19 locations made for prompt drilling. A heavy run on supply houses and lumber companies followed the starting of these tests, and local stocks were not ample to fill the demand.

Fuel and Water High

Fuel and water for drilling rigs will come high for the operators in the Nigger Creek field until development gets well under way. Fuel oil is to be used by the first group of tests, and this commodity will cost the operators about $1.90 per barrel f. o. b. Tehuacana, or Mexia, with a hauling expense of 50 cents per barrel. The Lone Star Gas Company has started work on stringing an 8-inch line from its Mexia trunk line system to the field proper, and will supply gas through meters on the basis of

20 cents per 1000 cubic feet consumed. Since the drilling contractors are using two boilers on each rotary rig, the gas will cost about $40 per 24 hours. The fuel supply threatened to become a factor in retarding the drilling, until Lone Star agreed to enter the field with a gas line, as only a small supply of fuel oil is available at the refineries in East Central Texas, and it would have been necessary to draw from North Texas and Gulf Coast plants, with difficulty in hauling the product from the nearest railroad points in the event of heavy rains.

The Simms Oil Company is entering the Nigger Creek field with a 4-inch water line from its old Mexia water station, which also aided in relieving the shortage to a limited extent at Wortham when that field developed a serious water shortage. This water line will have capacity to supply about 10 rigs, and the water will be available at $25 per 24 hours for two boilers. The Nigger Creek and Navasota River are also to be drawn on for water, but since nearby towns are dependent on the river for their water supply some protests may be made against the oil operators making heavy withdrawals.

R. R. "Bob" Penn and the Navarro Oil Company are to drill a wildcat test jointly on the southwest edge of the town of Tehuacana in the same zone of faulting and on a line to the northeast of the Nigger Creek field. This is probably the first wildcat location made on the strength of the new field discovery, and drilling will start as soon as titles can be cured. The test is to be drilled on the north 350 acres of the Mrs. Joe Peeples 614-acre tract in the lower W. A. Price survey, with part of the drilling block extending into the townsite of Tehuacana. The geology was worked by Heath Robinson, co-discoverer of the Nigger Creek field, and later checked by D. A. Cashin and R. M. Porch, both geologists for the Navarro Oil Company. Both the upper and lower Woodbine horizons will be tested. The following companies hold nearby lease protection: Simms, Sinclair, Phillips Petroleum, Gulf, Texas, Sun and E. L. Smith Oil Company.

Nigger Creek Field Activity

Mexia, Texas.—Drilling reports covering the Nigger Creek field at the close of the past week, included four active tests, 18 rigs and derricks, and 19 locations. The report follows:

COMPANY—	Rigs and Derricks	Locations	Drilling Tests
Bass et al's S. M. & K. O'Dell 1	..	1	..
Cranfill & Godley O. & G. Co.'s L. R. Suttle 1	1	..	..
A. E. Rosson 1	1	..	..
Holton & Goodman's A. E. Rosson 1	1	..	..
J. K. Hughes Dev. Co.'s L. R. Suttle 1	*	..	1
Moss & Keeling's A. E. Rosson 1	1	..	..
Murchison-Fain Oil Co.'s A. E. Rosson 1	1	..	..
Pure Oil Co.'s Bertha Atkins 1	1	..	..
Bertha Atkins 2	..	1	..
Bertha Atkins 3	..	1	..
Bertha Atkins 4	..	1	..
S. M. & K. O'Dell 1	*	..	1
S. M. & K. O'Dell 2	..	1	..
S. M. & K. O'Dell 3	..	1	..
S. M. & K. O'Dell 4	1	..	..
Reiter-Foster Oil Corp.'s L. Erskine 1	1	..	..
Ross & Thompson's A. E. Rosson 1	1	..	..
Showers et al's O'Dell 1	1	..	..
E. L. Smith Oil Co.'s A. E. Rosson 1	1	..	..
Stroube & Stroube's L. R. Suttle 1	1	..	..
The Texas Co.'s O'Dell 1	1	..	..
Transcontinental Oil Co.'s B. Atkins 1	..	1	..
B. Atkins 2	..	1	..
W. B. Cochrum 1	*	..	1
D. Cogdell 1	*	..	1
D. Cogdell 2	1	..	..
D. Cogdell 3	1	..	..
L. Erskine 1	..	1	..
S. M. & K. O'Dell 1	1	..	..
S. M. & K. O'Dell 2	..	1	..
T. D. Ross 2	..	1	..
A. E. Rosson 2	1	..	..
A. E. Rosson 3	1	..	..
A. E. Rosson 4	..	1	..
A. E. Rosson 1-A	..	1	..
A. E. Rosson 2-A	..	1	..
A. E. Rosson 3-A	..	1	..
A. E. Rosson 4-A	..	1	..
A. E. Rosson 5-A	..	1	..
A. E. Rosson 6-A	..	1	..
L. R. Suttle 1	..	1	..
Totals	14	19	4

*Represents drilling tests.

A. P. I. Transportation Committee Meets at Chicago August 5

New York, N. Y.—Announcement has been made by the American Petroleum Institute that its general committee on railroad transportation, including car service and mechanical subcommittees, will meet at the Congress Hotel in Chicago, Thursday, August 5. Among the topics to be taken up at the meeting are the following:

1. Uniformity in the rate paid for excess empty mileage. The Car Service Sub-Committee will report the results of a conference which it is to have on August 5, with a special committee composed of representatives from each of the several railroad group traffic associations.

2. Uniform sidetrack agreements. A special sub-committee will report the result of a conference to be held July 23, with representatives of the Committee on Uniform General Contract Forms of the American Railway Engineering Association, at which the present differing forms of liability and other clauses of sidetrack agreements will be discussed.

3. Definition of "Railroad Premises"—Note to Storage Rule 6. The proposed revision submitted by the A. R. A. Committee on Demurrage and Reconsignment will be considered.

4. Calibration of Tank Cars—as proposed by a group of mid-continent oil company traffic managers.

5. Inclusion in the Interstate Commerce Commission's regulations of specifications for tanks on tank cars—now pending on the docket of the Interstate Commerce Commission.

6. Several proposed changes in the Interstate Commerce Commission's inflammable regulations submitted by the Bureau of Explosives, which include the tank car specifications; fixing a maximum outage; a new definition for casinghead gasoline; and, revised specifications for shipments in wooden boxes.

7. A new method of payment by railroads for mileage allowance or earnings—docketed at the suggestion of a group of mid-continent oil company traffic managers.

8. A number of mechanical topics which include a new arrangement for giving notice of repairs to tank cars—docketed at the request of the National Petroleum Association; Safety Valve Tests; Steam Coil Cars; proposed tank car specifications making compulsory application of shoes to tank heads; conditions reported found by A. R. A. mechanical division inspectors; report of joint committee on safety valves, dome covers and bottom outlets; and changes in A. R. A. Interchange Rules: 3 (e)—removal of heater coil inlet and outlet pipe caps; 66—charge for repacking journal boxes; 101 (item 110)—charge for applying inflammable placard boards; and 112—method of settlement for destroyed tank cars.

Prairie main line pumping station located at Caney, Kansas. One of the first installations of Diesel Engines for pipe line service was made at this station.

Temperature of Exhaust Indicates Operating Efficiency of Diesel Engines

Check reveals when each cylinder is not doing its full share of handling load

By Roye Munsell

Staff Representative

WHEN one cylinder of a multi-cylinder Diesel engine in pipe line service fails to carry its portion of the load imposed by the pump, the one or more remaining cylinders are, of course, more or less overloaded.

It need scarcely be said that for maximum Diesel efficiency, the work of the engine should be equally distributed over the several cylinders. If it is not so distributed, not only will the engine be performing more or less inefficiently, but the contributing troubles might lead to disastrous results in time if not soon corrected.

An unbalanced condition in the engine is not likely to be known to the operating engineer unless he has some ready means of checking the performance of the individual cylinders of the engine.

Color of Exhaust

It is pretty well recognized that the color of the exhaust gas from a Diesel engine is not a reliable indicator of what the engine is doing, that is, not unless the ejection from the muffler is actually smoky. Even though the exhaust is clear after it leaves the muffler, there may be faulty combustion in one or more cylinders and still not show by virtue of the fact that combustion is being completed in the exhaust header.

Temperature of Exhaust

Just as the steam engineer may by taking readings of his flue gas temperature determine the performance of his steam plant, so may the Diesel engineer by measuring the temperature of the exhaust gases from the engine know how the engine is functioning.

In a general way it may be said that high exhaust temperatures indicate poor performance and low temperatures good performance, also, when the load of the engine is equally distributed over the several cylinders the exhaust temperatures as indicated by the instruments should be the same, and vice versa.

To enable the engine operator to make these checks on his engines, the Prairie Pipe Line Company, one of the largest users of Diesel engines for main and gathering pipe line service, has installed temperature indicating instruments on exhaust outlets.

By referring to these instruments the

The Jenks gathering station of the Prairie Pipe Line Company. This is also one of the first pump stations to be Diesel equipped.

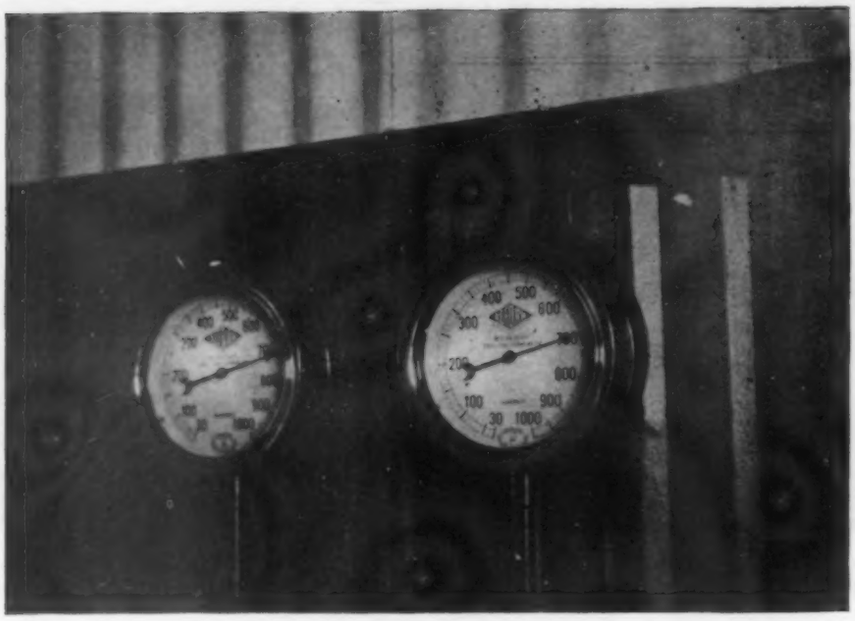


Figure 1.—American Schaeffer and Budenberg Dial Mercury Thermometers installed at the Prairie Pipe Line Company's Jenks station on a two-cylinder, 300 H. P. Diesel engine.

Figure 2.—Type of indicating Pyrometer used for measuring temperature of exhaust gases from Multi-cylinder Diesel engines.

operator can tell by a mere glance what the general performance of his engines are, and whether or not the load is equally distributed over the several cylinders. If the load is not so distributed, he knows, also, which cylinder or cylinders, as the case may be, are at fault by checking the temperatures of the several cylinders against each other.

The instruments used by the Prairie Pipe Line Company for this work are special mercury thermometers and indicating pyrometers.

The mercury thermometers are of the dial type, registering in degrees Fahrenheit from 30 to 1000. Long flexible extension tubes make possible the mounting of the dials in an accessible place on the wall. The bulb is placed in the exhaust passage near the outlet port.

One thermometer is installed for each cylinder, that is, on a two cylinder engine, two are used, etc. The instruments register the temperatures continuously and require no attention. See Fig. No. 1.

The pyrometers used on some jobs are of the indicating type registering directly in degrees Fahrenheit. The pyrometer is mounted on a panel or instrument board and the thermocouples placed in the exhaust outlets. See Fig. No. 2.

One indicating instrument, centrally located, is employed for measuring the temperatures of one, two, or more engines, a multiple point switch connecting the instrument with the thermocouples placed in the several exhaust passages. See Fig. No. 3 for method of hook up.

By merely turning the switch through the series of contact points, the temperature of the exhaust gases from the respective cylinders are indicated on the instrument.

It ought to be said at this point that the first step in using exhaust temperature indicating instruments on Diesel engines is to determine the maximum optimum temperature, that is, the temperature necessary to develop the maximum designed I. H. P. on any cylinder. The cylinders should then be maintained as close as possible to this temperature for all speeds and loads.

These heat indicating instruments are not intended in any way to take the place of "indicators," but rather to show the general condition of the engine and whether or not the loads on the several cylinders are equal.

If the engine is not in good condition, as shown by more or less high exhaust temperatures, or if the loads on the individual cylinders are not uniform, as shown by varied exhaust temperatures, the trouble can be located by taking an indicator card on the engine, or by the more familiar process of elimination.

Spray Air Pressure

Of all the factors which might materially affect the operation of a Diesel engine and show on the instruments, the spray air pressure is probably the greatest.

It is well known that the spray air pressure on a Diesel engine is similar in effect to the "spark" on a gasoline engine, that is, low pressures cause a condition not unlike a retarded spark and high pressures an advanced spark.

The practice of using temperature indicating instruments to measure the heat of exhaust gases has shown very clearly that the exhaust temperatures will be high when the spray pressures are low, and low when the spray pres-

(Continued on page 50.)

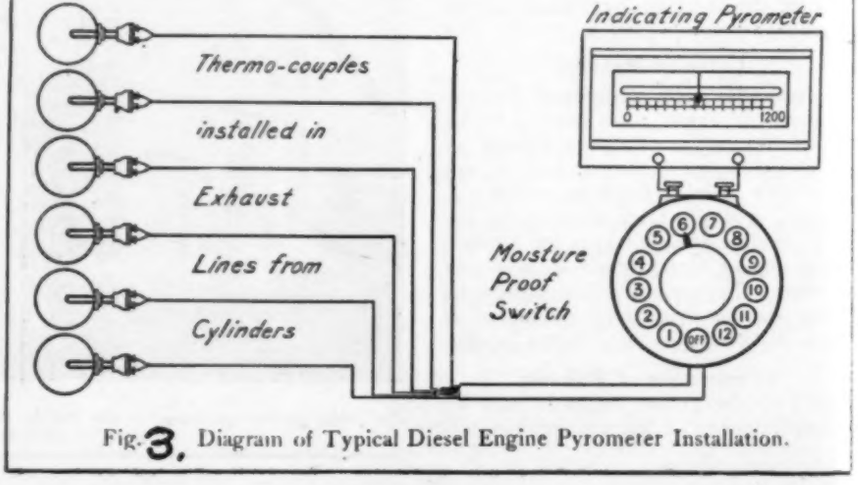


Fig. 3. Diagram of Typical Diesel Engine Pyrometer Installation.

EDITORIAL COMMENT

What Is Texas Going to Do?

WITH the State of Texas opening up new fields almost weekly, and with drilling permits in Texas running almost as great a total as the remainder of the oil country west of the Mississippi, many operators are wondering what Texas is going to do to the crude market. The possibility of a cut in crude was being discussed in the Mid-Continent last week but in every conversation the possibility of a cut was hinged on what Texas might do.

We are sure therefore, that the industry will be greatly interested in next week's Oil Weekly, which, in addition to being its semi-annual statistical issue, will feature what has taken place in Texas, what is taking place in the Lone Star State and what the probable effect will be.

The special Texas section of the July 30th Oil Weekly will represent the combined editorial efforts not only of the regular staff men of *The Oil Weekly* in Texas, but in addition the efforts of a number of staff men from other sections who have been brought to Texas to assist in the preparation of editorial matter for this issue.

It will contain data of permanent interest—data which has not hitherto been compiled or published in any journal.

It will contain geological data on the most important sections of the state, conclusions by some well known geologists and we are sure, will be of real interest to every man in the oil producing business. Do not miss it.

Deterding and Russia

IT is interesting to note that, in a recent statement by Sir W. A. Deterding, head of the Royal Dutch Shell, he announced conclusions regarding the effect of Russia in the petroleum market of Western Europe, which coincided very closely with the conclusions of an American oil executive as quoted in *The Oil Weekly* early in May.

The Bolshevick experiment in managing oil properties in Russia has not been a very happy one and the experience of the Russian Soviet in the oil markets of Europe has been even less happy according to the head of the Royal Dutch Shell.

Russia is selling oil in Western Europe at a price less than cost while there is actually an acute shortage of oil products in Russia, Deterding says.

With such a situation it is not likely that Russia will continue to be a factor long in European petroleum markets.

A. P. I. and the Oil Man

ANY idea that membership in the American Petroleum Institute is meant for the "big 'uns" is erroneous and based entirely upon misunderstanding. The A. P. I. is an organization for all oil men, from the man in the field to the chairman of the board and the Institute is particularly anxious that not only the individual producers, refiners, etc., belong, but that the men in the field also have membership.

Much of the work of the Institute has been of direct benefit to the men in the field, notably standardization, and field men are especially solicited to become members of the Institute. The individual membership fee is small, only $10 per year for company employees, small producers, etc., and the returns are large. Membership in the Institute entitles the member to a large amount of special information which is mailed to the member regularly and certainly no American oil man, be he field man or executive, but would be proud to say that he is a member of the Institute.

The Oil Weekly urges that all engaged in the oil business seriously consider the value and the necessity of belonging to the Institute. At an early date it will publish full details on what members are entitled to, give data as to what the Institute is doing, and tell exactly how you can become a member of the A. P. I.

Prospects for Added Oil Area

Wichita Falls, Texas.—Four wildcat and semi-wildcat operations in Archer County were in process of completion early this week with prospects of adding considerable new territory for development. The Simms Oil Company's Turbeville-Cowan 2-A, located on the north line of section 172, Robert Carson survey and about six miles northwest of Archer City, started flowing 300 barrels of 41.7 gravity oil by heads after bailing sand at 1529-33 feet, and led up to a scramble for nearby leases at prices ranging up to $500 per acre, half cash. The discoverers of this new area are well protected with leases, and an active development program is scheduled.

Chenault & American Refining Company's wildcat test on the Turbeville-Cowan ranch, section 150, and about one and one-half miles northeast of the Simms' discovery has set 6⅝-inch casing to test a good show of oil in sand at 1480½-1486 feet. Empire Gas & Fuel Company's semi-wildcat test on the J. R. Parkey ranch, being at the center of the northwest quarter of section 2, S. P. Ry. survey, A-1233, is rated good for 40 barrels when placed on pump from sand at 1571-73½ feet, and Gulf Pipe Line Company is connecting up with the lease storage to purchase the oil. The Panhandle Refining Company's semi-wildcat test on the Newell land is preparing to test a good show of oil in sand at 1763-67 feet. This test is located on the east line of section 1, S. P. Ry. survey, A-422, and less than a mile southwest of the town of Holliday.

The eastern part of Montague County held the interest of North Texas operators during fthe past week when the Commericial Petroleum Company's wildcat test on the J. W. Converns land, R. H. Grimes survey, developed a small show of oil after setting 6⅝-inch casing on sand at 1783-91 feet. Water broke in after swabbing, and preparations are being made to drill deeper. This well is located southwest of a recent wildcat discovery in Cooke County, but is a deeper pay horizon. The Hooser Oil Company has a second well on top of the pay sand at 1239 feet near the Hyman discovery producer, which is averaging 165 barrels of 33.4 gravity oil daily.

View of Twingone field, the original field in upper Burma

Even Burma oil is found near cemeteries. In the foreground is three tombs in an ancient burial ground. On the distant hill is a view of outside wells near Yenangung field.

Primitive and Modern Side by Side in Oil Fields of Burma

Natives work with shovels while American drillers are making hole with electric rigs

By Wallace Davis

Staff Representative

THAT the American rotary is fast finding its way into foreign fields and being used to a great success is exemplified by present activity going on in a big way at Choux-Singu, a comparatively new field undergoing much development in Upper Burma. At Choux-Singu, as well as in the old Yenangung fields of Burma, including the Bema and Twingone fields, American equipment is being used practically 100 per cent, while nothing but American drillers can be found in the fields to speak of. Such is the information gathered from R. J. Ward, formerly production superintendent for the British Burma Petroleum Company, and more recently with the British Bureau of Mines in Egypt, and who is now making a tour of American fields studying operating methods of this country.

Modern strides now being taken in Burmese fields can be nothing short of surprising to American operators after taking into consideration the remoteness of this territory from industrial centers, where material and equipment are directly available and after loing back to less than two decades ago, when producing oil in Burma was done virtually through primitive methods. Mr. Ward declared that on many occasions operators in Burma were forced to keep operations shut down as long as six months waiting on one piece of equipment.

Fighting against almost every odds except plenty of space to work in and the fact that the oil was there to produce, operators in Burma electrified the Yenangung fields three years ago. They have laid a pipe line from a distance of around 400 miles to the seaport at Rangoon, located on the west coast of Burma, bordering the Indian Ocean.

Fields Electrified

Electrification of the fields was carried out by the Burma Petroleum Company, which utilizes much of the power in its own work and sells to other operating companies. Electric power is used for drilling, pumping wells and for moving production in the pipe line. Turbines run by gas produced in the fields make the power. One of the interesting features of this method of operating is that the Burma Oil Company accepts gas in payment for the power in cases where the buying companies cannot make cash payment, or where they have an over supply of gas on hand.

Aside from the pipe line owned by the Burma Petroleum Company from the Yenangung fields to Rangoon there is a vast amount of crude shipped by "flats" or barges down the Irrawaddy River and towed by steamers to Rangoon refineries.

Burma's oil history is decidedly unique. Its discovery was much easier than the realization of its value. Authorities on the Burmese situation say no one now knows when the discovery was made. It had its first significance about the opening of the twentieth century. Although most of the production is found in the tertiary formations at between 2500 and 3000 feet, oil bearing formations actually outcropped in the old Twingone field, where crude seeped out and rang down sloughs in the hillsiles. This seepage greatly increased during rainy seasons of the year, beginning in March and lasting several months, due to the fact that water carried the oil in larger quantities. Natives living around the Twingone field gave nearby creeks the name of smelly waters and are said to have had ominous feelings about the oily substance on the water. Later they began using the oil as ointment to bathe their bodies and still later used it for fuel. As time went on there was more demand for the oil among the natives, and when it failed to seep out fast enough to supply the demand they dug into the seeps to increase the flow. And so oil well drilling in Burma started.

Irrawaddy River, Burma, over which much Yenangung production is shipped.

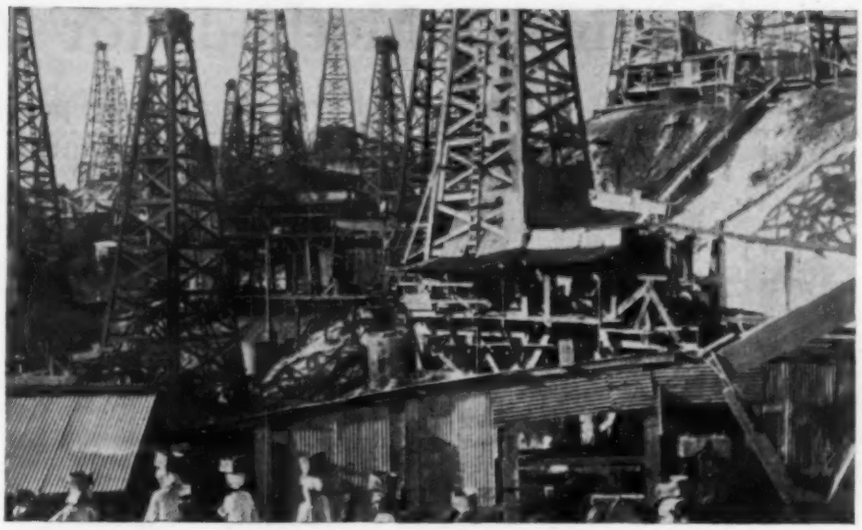
Title Tangles

Burmese natives are accredited with not being good sportsmen in times of a boom. In place of present suits for lease titles and court squabbles over survey lines it appears the knotted club was brought into action when a fellow operator lingered around a seep too long after getting the necessary amount of oil for ointment and

fuel for making his fire. Something had to be done to quell the spirited feeling that followed the first main rush at Twingone, and history shows that the king intervened and settled the boom proposition by dividing the land immediately surrounding the thousands of seeps among the groups of natives by alloting to each one a circle of ground 60 feet in diameter. Like the engineered lines of countries and states in America surveyed a century back still exist, so has the law of the line stamped by the Burmese king failed to be done away with by all modernism; and as a result the operator, who goes into Twingone today to buy acreage rights to drill, takes over the little circle to make his location. These small plots are what has given rise to the close offsetting as is seen in one of the accompanying photographs.

Burmese natives even today play a big part in producing, and an unwritten law bids the holders of the 60-foot circles to retain all shallow drilling privileges when leasing their circle to modern operators. On their own properties the natives still drill by hand right along side of the derrick where an American rotary rig is going below 2500 feet. The big company deep wells are brought in usually with initial outputs of approximately 100 barrels, flow for a few days and then make around 30 to 40 barrel pumpers. Digging and producing by hand not many feet from the derrick the native is producing at a rate according to how much he can lift and how long he can last.

However primitive in appearance of form the Burmese natives are using some methods that are worth stopping to look over. Although they are drilling by hand they are going to depths of more than 400 feet in a four-foot hole. Owing to the nature of the Twingone shallow production the natives produce practically all the way down from the surface to the deepest possible point of drilling by hand. As production diminishes at one point they start drilling deeper. The shallow wells are spudded with a shovel-like contraption and dirt is heaved out of the hole until the hole outgrows the man. Then an apparatus is contrived to bring the dirt up in a large can or small barrel, drawn by a cable passing over a roller much like the old American water well. When the driller at the bottom of the hole has the barrel full the roustabouts line up on the rope and walk away from the well, hoisting the barrel to the surface. As the hole is deepened more cable is tied on the end and an extra Burmese "coolie" is put on the end of the cable for more power.



Burmese "coolie" women make good roustabouts in the Yenangung fields. They are shown here carrying dirt on their heads to clear locations.

There are many women roustabouts in Burma. Burmese women "coolies" serve a great part in drilling by carrying dirt away from the location on their heads in four-gallon cans cut in half. An accompanying photograph shows a line of women clearing dirt away from a well.

The driller has the hardest and dirtiest job on shallow wells in Burma. He is often standing in oil up to his belt in the hole. It is customary for a man in the hole to wear a half tin can over his head while working to protect himself against falling oil, dirt or possible tools from the top of the hole.

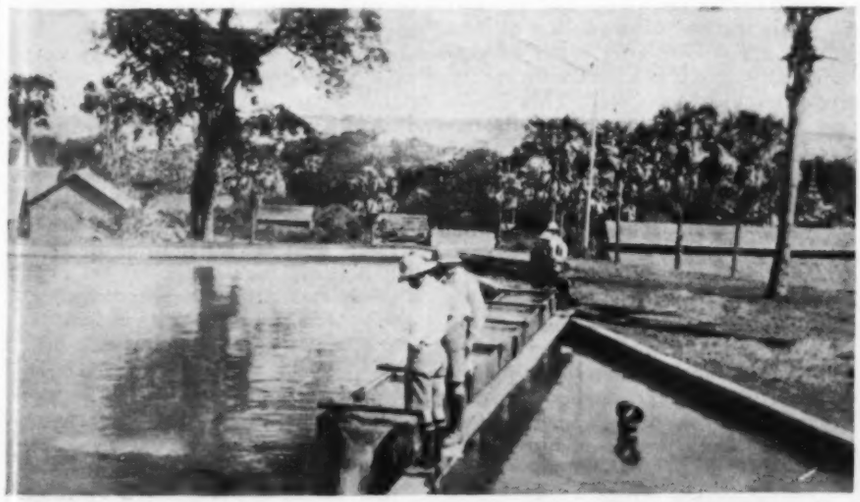
The problem of sufficient light and fresh air faces the driller after considerable depth is attained. It is in these two phases of the work that the Burmese natives have shown some of their greatest skill. Air masks much like those used in deep sea diving are worn by the man in the hole at great depths, and air is pumped to him through a tube from the surface. The problem of lighting the hole at great depths has been overcome by the natives arranging a mirror effect over the top of the hole for reflecting sunlight into the hope to a depth of 400 feet. The driller is lowered into and raised from his position in the hole by his fellow workers on the barrel and rope combination.

The same system of taking the dirt from the hole during drilling is used in bringing the production to the surface. Production of the natives, which is not all domestically consumed, is handled by larger operating companies direct from the wells. The native producer is called "twinza," meaning "owner of oil land," in the Burmese tongue.

The natives are also employed by the foreign operators in Burma fields and make up practically all of the crew except the drillers, more than 90 per cent of whom are Americans. Drillers in the Yenangung fields are paid a wage of from 40 to 45 rupes a day, amounting to roughly $14 in American money, and native "coolie" laborers get from 15 to 20 rupes daily.

The Bema field, which together with Twingone comprises the Yenangung fields, lies about 1 1-2 miles south of Twingone. It was brought in for the first production of any consequence in 1916, and underwent its most intense drilling in 1919. Twingone field had its first real commercial production about 20 years ago. Production from the entire stretch of Yenangung fields varies slightly around 38 to 40 gravity Baume.

Topography of the country surrounding the Yenangung fields is extremely rugged from a combination of naturally rolling surface and the work of corrosion cutting the ground into jagged hills. Many localities are made at pit bottoms, making it necessary to move equipment to the drilling site by sliding it down wooden chutes.



Settling tank near Irrawaddy River in Burma into which river water is pumped to settle and then be relayed to the field four miles away.

Outline of Methods for Mining Oil*

A description of systems offering possibilities when this method of development is used

By Edward Bloesch
Tulsa, Oklahoma

WHILE producing oil by pumping it from drill holes is a branch of mining, this paper treats only of producing oil by mining methods similar to those used for mining ores or coal.

It is well known that the method generally used of producing oil by drilling of wells and pumping the oil from the ground does not exhaust the deposit. The percentage of oil taken out naturaly varies considerably, but is hardly ever over 50 per cent of the oil originally contained in the sand. J. O. Lewis in his paper on methods for increasing oil recovery[1] estimates, that "only 10 to 20 per cent of the oil ordinarily is extracted." Similar views have recently been expressed by Heald[2] who writes of a field where at least 175,000,000 barrels of oil are present in the oil sands and where it is believed that present methods of extraction will obtain less than 7,000,000 barrels.

Inasmuch as the world's supply of oil is limited and the consumption of oil products steadily increases, a shortage is likely to occur in the not very distant future. The amount of oil left in the ground is, therefore, a matter of great interest and practical methods for its recovery are of great importance.

Several methods are in use which increase the recovery of oil, but their advantages and disadvantages are still open to discussion. As far as ultimate recovery is concerned, some of them are probably harmful. Several methods may be mentioned. Conserving the gas pressure by pinching in flowing wells is certainly beneficial, but should be done on all wells in a common pool. The uncertainties of this procedure are best illustrated by the fact that some producers find it more economical to drill up a new field as quickly as possible and to get as much oil as possible above ground while the gas pressure lasts, while others advocate a slow drilling campaign. The original natural gas pressure has been restored by compressed air, which method is reported as very successful in certain areas. The yield of pumping wells is often increased by applying vacuum. This method has been successful in many fields, but its advantage as to ultimate recovery is doubtful. Flooding of the oil sand has led to large recoveries in the Bradford field in Pennsylvania, but since probably 70 per cent of the original oil content is left in the Bradford sand after flooding,[3] this process leaves much to be desired. Scientific spacing of wells is helpful, but can seldom be done on account of property lines. Close drilling increases the recovery, but is uneconomical, especially in case of deep and expensive wells, as has been proved by numerous town site developments.

Complete recovery of the oil in a deposit can be accomplished only by mining the rock containing the oil, crushing or grinding up the rock as far as necessary, and extracting the oil either by heat (distillation), by a washing process, or with a solvent. Oil might thus be produced from shale, where valuable by-products would help pay the expense, and from certain coals (lignite), where the oils represent a by-product. Working oil-bearing sandstones or limestones in this way would seldom pay under present conditions. Oil thus produced could not ordinarily compete with coal at present, because at least five times the volume of rock must be mined in order to get the same volume of fuel. This is not now compensated for by the higher fuel value of oil. This method of producing oil will only be economical after crude oil gets sufficiently scarce as to make its special properties very valuable. This condition will arrive earlier in territories where the production of both coal and oil is very small compared with the demand.

Under present conditions in the petroleum industry certain mining methods can be used profitably and are, indeed, already used, which allow a much larger recovery than the well pumping method, but which do not extract all the oil contained in the sand. These are the methods used at Pechelbronn, Alsace, and methods based on the Pechelbronn system.

Oil Mines

Recovery of oil by mining operations has been resorted to for a long time, in fact it is older than the drilling of wells.

Oil was produced in the early days by digging shafts into which the oil seeped and was brought to the surface. This method was used to a considerable extent in the oil fields of Europe and Asia and has not been fully replaced by modern drilling methods. Some of the shafts in Roumania are from several hundred up to a thousand feet deep.

Oil has also been produced by driving tunnels into the mountainside, especially in the western part of the United States. Most of these tunnels are in California and are shown in part on blue prints of the California oil fields published by the California State Mining Bureau. A similar tunnel is also in operation near the Utah line in Colorado.[4]

The California oil tunnels are mostly located on the south side of Sulphur Mountain in Ventura County. Structurally this mountain forms part of an overthrust.[5] The oil is in the Monterey shale, which is strongly folded and dips steeply, in places 70° to 80°. The oil-bearing horizons crop out on the mountainside, but are mostly sealed by asphalt. The tunnels are driven from the valleys at a slight upward angle, sufficient to let oil flow to the mouth. The length of the tunnels varies considerably. The writer has seen one in Coche Canyon only 12 feet long, while one in Adams Canyon is reported to be 1900 feet long. Several of these tunnels are over 50 years old and are in part still producing. The different tunnels do not produce from the same stratigraphic horizon in the Monterey shale. In all, 31 tunnels were dug on Sulphur Mountain, the first one in 1866.[6] A tunnel in Toro Canyon, east of Santa Barbara, produced oil and water from the Tejon formation (Eocene). When some nearby wells were abandoned, the pipe line was used to irrigate with the water from the tunnel, but it is making enough oil yet (1921), that the latter has to be separated from the water. The oil tunnels in California are operated in conjuntion with drilled wells. While most of the tunnels have produced enough oil to pay for their digging and operating, the output is too small to pay for general expenses like road and pipeline building, tankage, etc.

Oil sand has been mined by tunnels and also by shafts near Geneva, Swit-

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*Paper read before the American Association of Petroleum Geologists, reprinted from the Association's Bulletin.

[1]J. O. Lewis, "Methods for Increasing the Recovery from Oil Sands," *U. S. Bureau of Mines, Bull.* 148, 1917.

[2]K. C. Heald, "Eighty Per Cent of Oil Not Recovered," *Oil and Gas Journal*, Vol. 22, No. 21 (1923), p. 58.

[3]Robert B. Bossler, "Oil Fields Rejuvenated," Penn. Bureau Top. Geol. Surv., Bull. 56, 1922.

[4]W. H. Emmons, Geology of Petroleum, 1921, p. 434.

[5]Max Reinhard, "Interpretation techonique de la region petrolifere de la vallee de Santa Clara en Californie," *Arch. Sciences phys. nat.*, Periode 5, Vol. 1, 1919; N. L. Taliaferro, "Notes on the Geology of Ventura County, California," *Bull. Amer. Assoc. Petr. Geol.*, Vol. 8, 1924.

[6]W. W. Orcutt, "Early Oil Development in California," *Bull. Amer. Assoc. Petr. Geol.*, Vol. 8 (1924), p. 64.

erland, and heavy oil has been extracted from the sand.[1]

The exploitations near Gabian in Southern France, which date back to the earliest part of the seventeenth century,[2] were carried on by tunnels, started from shallow pits. They lead us to real mines, consisting of shafts and galleries. Gabian is the place, where recent drilling resulted in completion of a commercial well in November, 1924, opening up a new field in France.[3]

Modern Oil Mining

In the last few years shafts and tunnels have been combined and modern mines have been opened for the production of oil. Two such mines are on a commercial basis, one at Pechelbronn, Alsace, the other one at Wietze, in Hannover, Germany.

Pechelbronn

The oil field of Pechelbronn, the only important producing field of France, is located in northern Alsace north of Hagenau in the valley of the Rhine. Structurally this valley represents a downfaulted trough or graben between the Vosges Mountains and the Black Forest. This graben is about 200 miles long and 15 to 30 miles wide with a maximum downthrow of probably 10,000 feet. It was formed mostly in Oligocene time, but movements occurred as late as the Pleistocene, which diverted the Rhine from its old course toward the Rhone and the Mediterranean to its present course.[10] In the mountains on the sides of the graben the sediments down to lower Triassic are practically all eroded and over large areas the crystalline basement forms the surface. In the Rhine Valley, Mesozoic and Tertiary sediments are present, but they are mostly concealed by terrace gravels, loess, and alluvium. The valley is bordered on each side by a major fault, but a number of minor faults, more or less parallel to the main faults, are present. East and west of the two main faults the strata dip away from the valley, but the general dip inside the graben is toward its center.

At Pechelbronn the strata dip southeast at the rate of 2° to 8°. The accumulation of the oil is due partly to the minor faults mentioned, partly to lenticularity of the sands.

The oil occurs in sands in different members of the Oligocene, which is partly marine, partly of brackish and fresh water origin. The Ogliocene of this area has a thickness of over 4000 feet and contains at least 13 pay sands.[11] These sands are all lenticular, but the lower ones are as a rule more extensive and regular than the upper ones. The sand lenses usually have their main extension in a northeast-southwest direction, parallel to the old shore lines and to the fault system.

An oil spring at Pechelbronn was known and utilized in the fifteenth century,[12] Exploitation started in 1735, when a tunnel dug in the hill side found the oil sand, which was mined and from which a heavy, tar-like oil was washed out. In 1745 a shaft was sunk, followed by others, from which galleries were driven into the oil sand and the sand was mined in the same way as a coal seam.

At first shallow sands occurring at a depth of about 30 feet were exploited, but later on deeper sands were attacked, which contained slightly lighter oil. In 1866 workings about 250 feet deep encountered oil, which was sufficiently light to ooze into the galleries. From then on the sand was not treated any more, as it was cheaper to use the oil seeping into the mine. Thus 1000 tons of oil were produced in 1880.

As the mines had no ventilating system, accidents occurred, which led to a change in the method of mining. The main galleries were located above the oil sands and the producing horizons reached from these galleries by means of slopes, these workings being about 300 feet deep. Oil was produced in this manner from 1875 to 1888.

In order to lay out properly the plans for future mining operations, test holes were resorted to, which also helped to avoid gas and water troubles and heaving sands. In 1882 one of these test holes at a depth of 139 meters encountered oil of higher gravity, which to the surprise of the drillers flowed to the surface. Subsequently the field was exploited by wells as in other fields and mining was given up in 1888. The depth of the wells varies from 100 to 600 meters (300-2000 feet).[13]

The world-war created a big demand for oil and its products, but in the meantime the production of the Pechelbronn field had dropped to where a good many wells could hardly be operated at a profit and new drilling gave only partly satisfactory results. Under these circumstances the old mining methods were recalled, after experiments conducted by P. de Chambrier had proved that a considerable amount of oil was left in the sands even after the wells had been pumped nearly dry. Accordingly, it was decided to mine the sand and extract the balance of the oil. A shaft, 500 feet deep, was completed in 1917 in a practically exhausted part of the field and galleries were driven into the oil sand.

The results were surprising. It was found that not only all the oil which had been expected was actually present in the sand, but that the oil flowed or seeped into the underground workings in sufficient quantity to make it unnecessary to mine and wash the sand. Therefore, instead of mining and washing the sand, the galleries were extended to form more drainage channels. What is often done in wells by mechanical devices or by shooting to enlarge the producing surface and to create a fresh sand surface had been accomplished on a large scale by mining. Instead of having, say, the circumference of a 6-inch hole for the thickness of the sand or eventually the surface of a shot hole, they had created a sand surface, which could be enlarged at will by lengthening the galleries or by digging new ones. Thus this mine produced 18,200 tons of crude oil in 1918,[14] the first full year the mine was in operation. Already in 1917 the success had led to the starting of a second shaft.

On fresh surfaces the oil oozes out the full height of the gallery, or the full height of the exposed oil sand, but the oil level on the face drops and soon only the lowest part produces. Therefore, the tunnels are extended slowly but continuously, most of the production coming from fresh faces. The oil is conducted to central sumps from which it is pumped to the surface. Drifts are usually made 50-100 meters (170-330 feet) apart and cross-cuts every 50 meters (170 feet).[15]

At the close of 1924, three mines were in operation at Pechelbronn with 5 shafts, 150-250 meters (500-800 feet) deep. Another shaft under construction is going to be carried to about 1000 feet. Two of these mines produce from two different horizons 50 meters (170 feet) apart. Most of the work has been done in the first mine.[16] Altogether about 20 miles of galleries have been dug and 170,000 tons of crude oil have been produced.[17]

The figures in Table I show the production in tons (about 7 bbls. to the ton) of the Pechelbronn field for the years during which the mines were in operation and for a few preceding years.

The mines at Pechelbronn have produced over one million barrels of oil and for the last two years the daily production has been about 700 barrels. The decrease in mine production from

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[1]Arnold Heim and Adolf Hartmann, "Untersuchungen uber die petrolfuhrende Molasse der Schweiz," Beitr. zur Geologie der Schweiz, Geotechn. Serie 6," 1919.

[2]Paul de Chambrier, "Etude economique sur l'exploitation du petrole par drainage souterrain," *Chimie et Industrie* (May, 1923). (Abridged translation published in *Journ. Inst. Petr. Techn.*, Vol. 9, 1923.)

[3]Sidney Powers, "Oil Well in Southern France, Bull. Amer. Assoc. Petr. Geol., Vol. 9, 1925."

[10]Edward Bloesch, "Zur Tektonik des schweizerischen Tafeljura," N. Jahrbauch f. Mineralogie, etc., Beil.-Bd. 29 (1910), p. 640.

[11]M. Gignoux and C. Hoffman, "Le bassin petrolifere de Pechelbronn," Bull. du Service de la Carte geol. d'Alsace et de Lorraine, tome 1 (1920), No. 1.

[12]Hans Hoefer, Das Erdoel und seine Verwandten, 4th ed., 1922, p. 27.

[13]Paul de Chambrier, "Les Gisements de Petrole d'Alsace," Soc. d'Encouragement pour l'industrie nationale, Bull. (Janvier-Fevrier, 1920), p. 21.

[14]M. Langrogne, "Notice sur l'exploitation par puits et galeries des gisements petroliferes," Annales des Mines (Avril, 1921), p. 14.

[15]Paul de Chambrier, "Les mines de petrole de Pechelbronn," Conference faite a Mulhouse a la societe industrielle, 1920 p. 24.

[16] See plan: C. Schlumberger, "Technique de Pexploitation minere a Pechelbronn," Chimie et Industrie (May, 1923), Fig. 4.

[17]Paul de Chambrier, personal communication.

1919 to 1921 is partly due to the disturbed economic conditions of the post-war period, partly to accidents, which

Table I
Production of Crude Oil at Pechelbronn

	From Wells	From Mines	Total of Field
1913	49,560	0	49,560
1914	48,960	0	48,960
1915	43,200	0	43,200
1916	41,520	0	41,520
1917	39,100	7,700	46,800
1918	30,886	19,154	50,040
1919	30,000	17,160†	47,160
1920	42,160	12,800	54,960
1921	43,825	11,750	55,575
1922	45,150	24,960	70,110
1923	33,226	37,469	70,695
1924	32,356	38,513	70,869
Total			169,504 tons*

*This total and all the figures for 1921 to 1924 are from personal communication by Mr. Paul de Chambrier to whom the writer is under great obligation, the other totals are from M. Schlumberger (op. cit., Fig. 7), the mine production from 1917 to 1919 from M. Langrogne (op. cit., p. 14), and the other data are figured by the writer from the totals.
†Estimated.

necessitated shutting down part of the mine.[18] For the last three years the total production of the field has been about the same and equal to the capacity of the refinery at Pechelbronn.[19] In mining operations production can be regulated much more easily than in producing oil from wells.

Of particular interest is the large quantity of oil produced from a sand which was nearly exhausted by wells. It was determined that from the oil originally contained in the sand 17 per cent was pumped out through the wells, that an additional 43 per cent was recoverable through the seeps in the galleries and 32 per cent more by washing the sand, while 8 per cent is a loss.[20] Actual figures are: Area of shaft No. 1: 4 wells produced in 1908-17, 21,000 tons; mine produced in 1917-20, 48,000 tons.[21]

The oil sand dug out in constructing the galleries is piled up in dumps from which some seepage oil is collected, and it is intended later to extract the balance of the oil. Experiments have led to the development of a practical method of washing the sand, but as it barely pays, the necessary installations have not been made yet.

While the different oil sands vary in thickness from a few inches up to 5 meters (17 feet),[22] the sands actually mined have a thickness of 1.8-3 meters (6-10 feet). They are not cemented and therefore are easy to mine. The only difficulties in mining at Pechelbronn consist of danger due to gas and and g a s o l i n e vapors. Some recently adopted changes in the working methods at Pechelbronn will be described below.

Descriptions of the mines at Pechelbronn including a map of the workings of mine No. 1 have been published by De Chambrier,[23] former general manager of the Pechelbronn works and by Schlumberger,[24] French chief engineer of mines. Maps of the whole field have been published by De Chambrier[25] and by Gignoux et Hoffman.[26] A complete account of the history of Pechelbronn is given by De Chambrier.[27]

Wietze

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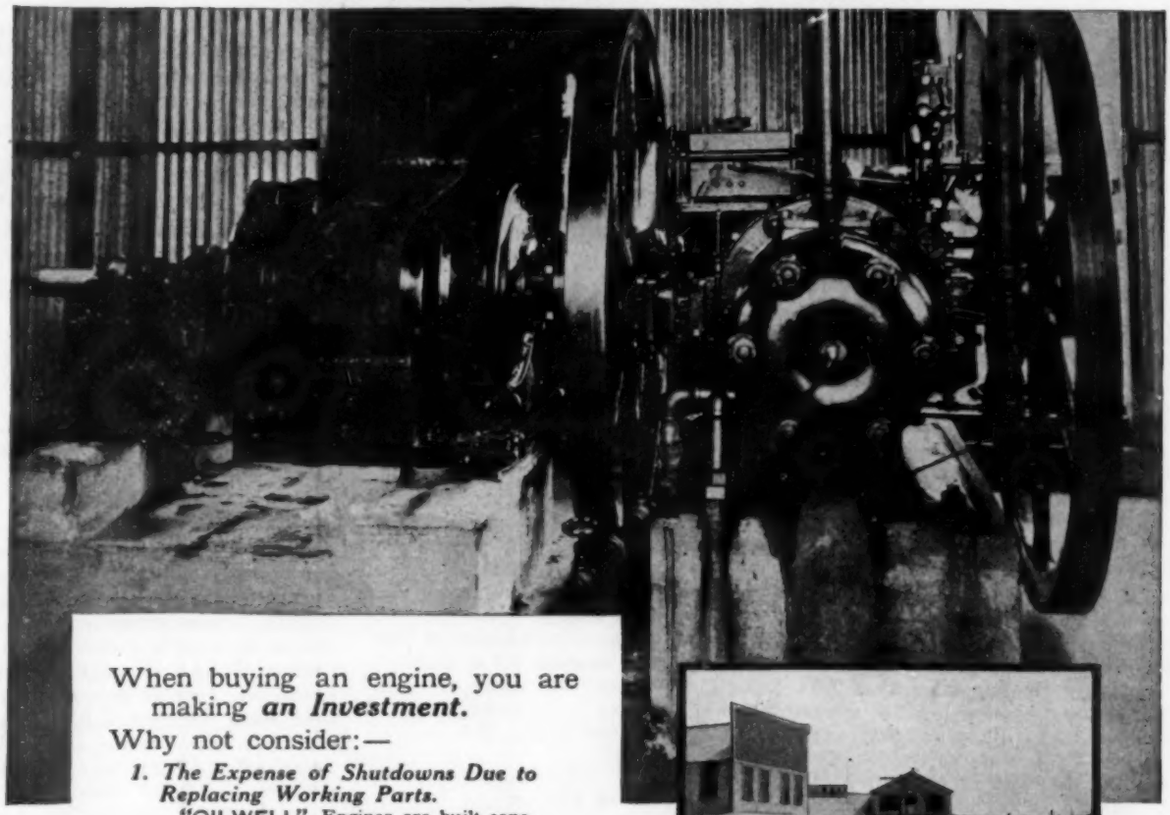

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Say you saw it in The OIL WEEKLY

1919 to 1921 is partly due to the disturbed economic conditions of the post-war period, partly to accidents, which

Table I
Production of Crude Oil at Pechelbronn

	From Wells	From Mines	Total of Field
1913	49,560	0	49,560
1914	48,960	0	48,960
1915	43,200	0	43,200
1916	41,520	0	41,520
1917	39,100	7,700	46,800
1918	30,886	19,154	50,040
1919	30,000	17,160†	47,160
1920	42,160	12,800	54,960
1921	43,825	11,750	55,575
1922	45,150	24,960	70,110
1923	33,226	37,469	70,695
1924	32,356	38,513	70,869
Total			169,504 tons*

*This total and all the figures for 1921 to 1924 are from personal communication by Mr. Paul de Chambrier to whom the writer is under great obligation, the other totals are from M. Schlumberger (op. cit., Fig. 7), the mine production from 1917 to 1919 from M. Langrogne (op. cit., p. 14), and the other data are figured by the writer from the totals.
†Estimated.

necessitated shutting down part of the mine.[18] For the last three years the total production of the field has been about the same and equal to the capacity of the refinery at Pechelbronn.[19] In mining operations production can be regulated much more easily than in producing oil from wells.

Of particular interest is the large quantity of oil produced from a sand which was nearly exhausted by wells. It was determined that from the oil originally contained in the sand 17 per cent was pumped out through the wells, that an additional 43 per cent was recoverable through the seeps in the galleries and 32 per cent more by washing the sand, while 8 per cent is a loss.[20] Actual figures are: Area of shaft No. 1: 4 wells produced in 1908-17, 21,000 tons; mine produced in 1917-20, 48,000 tons.[21]

The oil sand dug out in constructing the galleries is piled up in dumps from which some seepage oil is collected, and it is intended later to extract the balance of the oil. Experiments have led to the development of a practical method of washing the sand, but as it barely pays, the necessary installations have not been made yet.

While the different oil sands vary in thickness from a few inches up to 5 meters (17 feet),[22] the sands actually mined have a thickness of 1.8-3 meters (6-10 feet). They are not cemented and therefore are easy to mine. The only difficulties in mining at Pechelbronn consist of danger due to gas and and g a s o l i n e vapors. Some recently adopted changes in the working methods at Pechelbronn will be described below.

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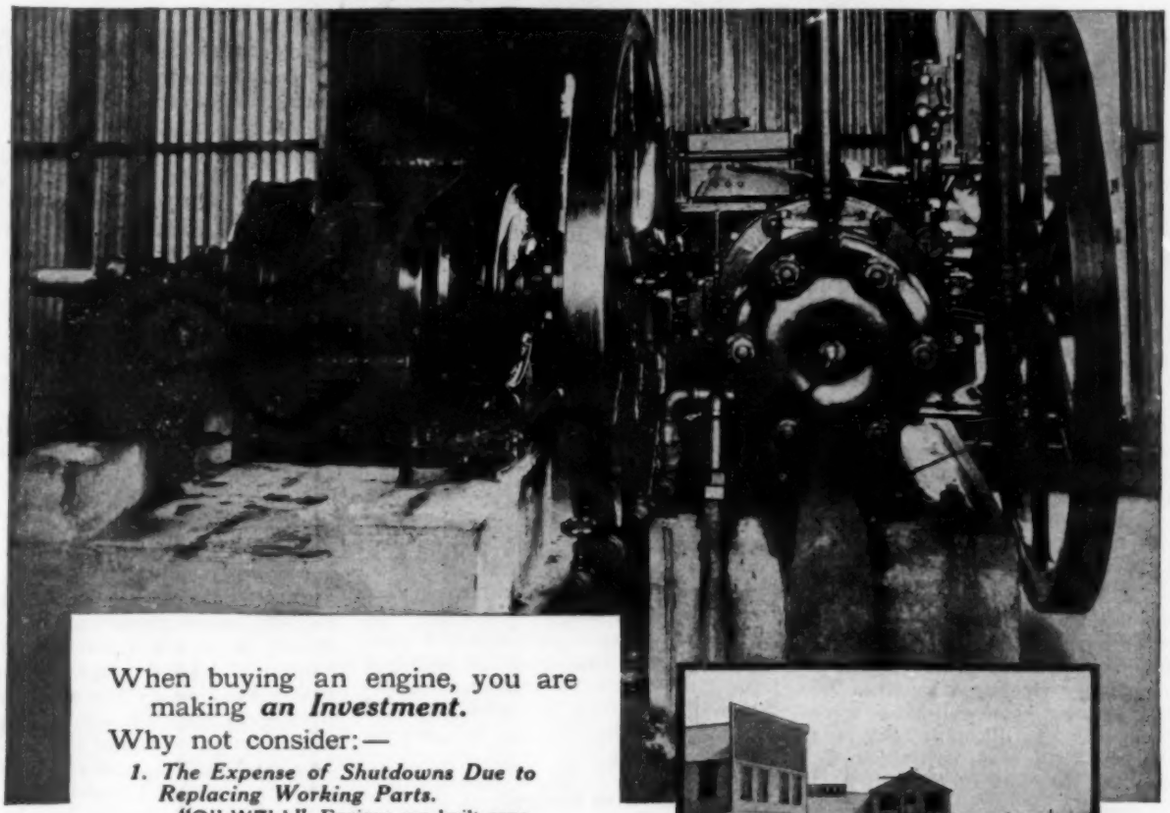

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Say you saw it in The OIL WEEKLY

Five New Producers at Los Cerritos Come as Surprise to Operators

Inside locations in area commonly believe exhausted boost field's production

By Wm. V. Gross
Staff Representative

Los Angeles, Cal.—In the face of a fast growing conviction on the part of operators that the two sands of Los Cerritos field, extension of the old Signal Hill field, were just about exhausted, completion of several very substantial producers there this week came as an absolute surprise.

The reversed trend of production at Los Cerritos did not result from any wells that have been closely scouted, but came from wells within the field proper which were expected to develop into nothing more than ordinary producers at best. Five new producers added to the field's string the week ending July 17, contributed a flush of 3850 barrels, bringing Los Cerritos' daily average yield up to 18,000 barrels, coming from 150 wells. (Long Beach proper showed a daily average production of 93,450, giving the Signal Hill district a total daily yield of 111,450 barrels from 690 wells).

James O'Donnell, the pioneer of extension work at Los Cerritos, brought in the week's largest producer when his Los Cerritos No. 49, a work-over job, was deepened to 4845 feet for an initial of 950 barrels. The second best well of the week was that of E. L. Blanton. Blanton's Los Cerritos No. 1 was completed in the deep sand at 4840 feet for a flush yield of 900 barrels of 23 degrees Baume gravity clean oil. Coombs-Trust No. 3-4, put on production by the Coombs Trust Company was a duplicate of Blanton's well with the exception of gravity. Coombs-Trust No. 3-4 was a 22.5 gravity well, completed at 4848 feet. H. L. Whiston's Whiston No. 3 was deepened to 4785 feet and came in flowing 600 barrels of 23 gravity oil. The Hub Oil Company's Los Cerritos No. 1, another work-over well, made 500 barrels of 22.5 gravity oil with a 3.5 per cent cut when put on production at 4803 feet. All the above completions, it will be noted, were effected in the deep sand, and it is believed that the upper sand, the discovery of which gave rise to Los Cerritos development, has little or nothing more to offer in the way of commercial production.

Signal Hill

While scouts have been closely watching progress on the California Petroleum Corporation's Bixby No. 1 and Miller and Haley's No. 1, wells that have been attempting extensions of the Los Cerritos area, a dark horse has been slipped into the game over in the old Signal Hill field. In the southeastern section of old Signal Hill, the San Martinez Oil Company has encountered at 5212 feet what is reported to be an exceedingly rich oil sand. Booth 4-A, the well in which the sand was found, is being closely guarded by the San Martinez people, and no information is being given out concerning its progress. However, if the sand in Booth 4-A turns out to be as productive as it is reported to be rich, a revival of drilling in southeastern Signal Hill may be expected.

Richfield, which has been held in the background of California field activities due to concentrated development in Los Cerritos and the flurry of leasing in the northern section of the state, stepped into the limelight this week when the General Petroleum Corporation got a 1000-barrel well in its Thompson No. 7. The well was brought in from 4620 feet, on one of the best pieces of property ever exploited in the Richfield-Brea Canyon district. Thompson property gushers were a sensation in California 11 years ago when the Union Oil Company's Chapman No. 1, an 8000-barrel well, presented Los Angeles Basin operators with Richfield field.

In addition to its activities in Richfield proper, the General Petroleum Corporation is drilling No. 6 Sterns on the Stern property and Tonner Nos. 2-A and 12, in Brea Canyon.

Brea Canyon

One thousand three hundred feet of oil producing strata has been found in the Fisher No. 4 in Brea Canyon, on a piece of property which has established an enviable production record from sands of far less magnitude. At 4824 feet, the Shell completed its Fisher No. 4 and the oil string included 1300 feet of screen. The well, when put on production, ought to be one of the largest producers brought in in the district for several years, yet, commercial production is far from being assured just because of a 1300-foot productive zone. The Fisher property, being drilled on by the Shell, formerly was owned and operated by the Columbia Oil Producing Company.

Since the era of gushers in Los Angeles Basin, a 250-barrel well is a big well anywhere, but in the Torrance field, it is a sensation. This week the Chanslor-Canfield-Midway Oil Company (Santa Fe subsidiary) brought in its Del Amo 51 for an initial of 325 barrels. Del Amo No. 51 comes as another addition to the lease of that name which already embraces far more producers than any lease operated by one company in Southern California. Four other wells are being drilled on the Del Amo property by C. C. M. O., and it is understood the company intends to employ three rigs steadily in the field during the summer months.

A second completion at Torrance this week was that of the Standard Oil Company's Marble Fee No. 25, a work-over well, which gauged a flush of 50 barrels of 20 gravity oil. The Standard is contemplating work on its Marble Fee No. 1-13 and drilling will start in a few days.

Green No. 1, the Associated Oil Company's work-over well in Santa Fe Springs, which surprised operators when it came in last week for an initial of 1165 barrels from a zone considered almost exhausted, has been put on the compressor and is making 1300 barrels. An increase over the flush is contrary to most expectations. Last week it was pointed out that those holding property in that part of Santa Fe Springs field adjacent to the Associated's Green property might be expected to launch reconditioning campaigns of limited magnitude, pending Green No. 1 well's behavior during the first week or two subsequent to its recompletion. In this connection, the Standard Oil Company, which holds property near the Green lease of the Associated, has its Orr No. 2 reconditioned to 4664 feet, and is pumping water on a test. The same company's Weisel No. 3 has been redrilled and conditioned to 4661 feet and is pumping oil and water on a test, with a chance of the well's clearing up. In addition to the Associated and the Standard, those holding property in the vicinity of the Green well are the General Petroleum Corporation, the California Petroleum Corporation, the Wilshire Oil Company and the Union Oil Company.

One and one-half miles north of the townsite, in the Huntington Beach field, the Standard of California added 1057 barrels of flush to its daily production this week with completion of Huntington B-46 and Huntington B-47. Both of the wells has a substantial casing head pressure, that on B-46 reading 790 pounds and that on B-47 reading better than 900 pounds. Huntington B-46 was brought in from 4236 for an initial of 355 barrels of 22.5 gravity oil, running a cut of 4 per cent. B-47 made 702 barrels of 24.5 gravity oil with a cut of less than 2 per cent. Total depth of B-47 was 4286 feet.

Texas Panhandle Production Climbs To 61,840 Barrels Daily

Amarillo, Texas.—Daily production in the Texas Panhandle climbed to 61,840 barrels during the past week, with 211 producing and flowing wells, while new locations were made in sufficient numbers to run the total operations listed on field reports to 595, as compared to 573 on the week previous.

Hutchinson County accounted for the gain of 6910 barrels in daily production for the district, and averaged 56,615 barrels daily from 160 flowing and pumping wells, or 354 barrels daily per well. The large number of small pumpers in the other four counties producing oil in the Panhandle brings the well average for the district down to 293 barrels daily.

The first interference of any consequence to drilling operations in Hutchinson County developed on the north side of the Canadian River during the past week when the gas supply for firing boilers became insufficient to meet the growing demand. A large percentage of the drilling was temporarily halted, but additional lines are to be built promptly to relieve the situation. Since very little gas is encountered in drilling north of the river, the operators must build lines to the south side and tie into completed gassers in the southwest part of the county.

Hutchinson County reported a total of 280 active tests at the close of the past week, with 100 rigs and derricks in process of completion, while the shut downs and locations gave the county a total of 450 operations. This county scored 13 completions during the past week, with a combined initial flow of 6530 barrels.

Introduction of the combination rig in the Wilcox field, Gray County, with excellent success some time ago by the pioneer operators in this field, has led to a more general use among the new com-

PANHANDLE PRODUCTION

Amarillo, Texas.—Daily average production during the past week in the five counties producing oil in the Texas Panhandle district is listed below by companies, with the total producing wells included:

	No. Wells	Av. Daily Prod.
Carson County—		
Amarillo Oil Company	1	...
American Refining Company	4	530
Gates Oil Company	1	10
Gulf Production Company	9	240
Marland Oil Company	7	1170
W. W. Silk et al	2	80
Skelly Oil Company	2	65
Sunny Jim Oil Company	2	50
The Texas Company	9	165
Totals	36	2310
Gray County—		
Empire Gas & Fuel Company	1	10
Shamrock Pet. Co. (was Clark)	2	75
The Texas Company	1	20
Wilcox Oil & Gas Company	4	2570
Totals	8	2675
Hutchinson County—		
Amerada Petroleum Corp.	2	110
American Refining Company	1	115
Apex Oil Company	1	230
Badger Oil Company	1	30
R. G. Barnum et al	1	30
Canadian River Oil Company	4	375
Canyon Oil Company	2	4545
Centerfield Oil Company	1	...
Cline & Douglas Oil Company	1	15
Coble-Whittenburg Oil Company	2	725
Cockrell-McElroy Oil Company	2	1520
Currie Bros. & J. R. Phillips	1	2165
Derby Oil Company	1	480
Devonian Oil Company	1	40
Dixon Creek Oil Company	14	8750
Double Five Oil Company	1	90
J. B. Dunnigan et al	1	350
Drysdale Oil Company	1	...
Fly-Blackburn Oil Company	1	215
Gates Oil Company	4	325
Golding-Phillips Oil Company	1	15
Gulf Production Company	4	905
Gulf-Cline & Panhandle Ref.	11	2785
W. Scott Heywood et al	1	...
W. H. Holmes et al	1	260
Holmes-Currie-McKnight	1	240
J. K. Hughes Dev. Company	4	530
J. H. Lenix et al	1	10
Lucky Ten Oil Company	1	150
Marland Oil Company	1	10
S. D. & W. W. McElroy	2	500
McElroy Oil Company	3	450
McIlroy-Herring Oil Company	2	195
McKinney-Bayer Oil Corp.	1	...
McMann Oil & Gas Company	5	1800
J. H. Middleton et al	3	65
Mid-West Exploration Co. et al	3	500
Newby Oil Company	1	40
New Dominion Oil & Gas Company	2	25
Pattison-Lenix Oil Company	1	1500
J. R. Phillips et al	1	30
J. R. Phillips-Heywood	1	...
Phillips Petroleum Company	14	10,925
Phillips Pet. & Gibson Oil Corp.	4	620
Phillips Pet. & McMillen et al	1	360
Phillips Pet. & Pulaski Oil Company	6	755
Phillips Pet. & Williams	2	635
Prairie Oil & Gas Company	3	130
Relief Oil Company	2	790
Henry Riley & W. H. Holmes	1	800
Roxana Petroleum Corporation	6	2910
Ryan. Con. Pet. Corp. (Morton)	2	150
Skelly Oil Company	6	715
Skiatex Petroleum Company	3	460
J. L. Smith et al	1	100
Smith-Bynum et al	1	400
Spring Creek Oil Company	1	150
Summit Oil Company	2	525
Sunny Jim Oil Company	3	520
Travelers Oil Company	2	595
J. D. Ward et al	2	355
Westex Oil Company	3	3295
White Eagle O. & R. Co. et al	5	1305
Jim Whittington et al	1	...
Totals	160	56,615
Potter County—		
Amarillo Oil Company	1	30
Wheeler County—		
Gibson Oil Corp. et al	2	195
Mid-West Exploration Company	3	25
Texhoma Oil & Refining Company	1	90
Totals	6	210
Grand Totals for past week	211	61,840
Grand totals for previous week	192	54,930

panies entering. More than a dozen rotaries are drilling, or rigging up, and will go to the top of the lime around the 2100-foot level, before giving way to standard tools in drilling through the anhydrite lime then into the sandy lime and granite wash pay. Gray County is receiving the second largest development of the Panhandle counties, with a total of 67 operations listed.

The Phillips Petroleum Company is the first of the major operators in the Panhandle district to run daily production up to a sizeable figure, and during the past week the combined production of the Phillips Petroleum Company and allied interests amounted to 13,295 barrels from 26 flowing and pumping wells, while during the 24 hours ending 7 a. m., July 19, it amounted to 16,600 barrels. Phillips averaged 10,925 barrels daily from 14 wells on leases held outright, while the balance was held jointly with Gibson, Pulaski, McMillen and Williams. The Dixon Creek Oil Company, which is controlled by Amarillo citizens, averaged 8750 barrels daily from 14 flowing and pumping wells, and the Canyon Oil Company was the third largest producer with two wells making 4545 barrels daily average for the week.

Gulf-Cline & Panhandle Refining Company's Dial 10, section 24, H. & T. C. survey, block 47, was showing for a good producer early this week, having flowed 587 barrels during the 21-hour gauge ending 7 a. m., July 19, from sandy lime pay at 2780-95 feet. This well is located on the north side of the Canadian River, in Hutchinson County, and about a half mile southwest of the same interests' Dial 6, which was completed April 29, flowing 1600 barrels initial at 2905-27½ feet. The latter well has averaged slightly above 1400 barrels daily since its completion, and is agitated occasionally to remove paraffin accumulation.

Walter O'Bannon in New Quarters

Tulsa, Okla.—The Walter O'Bannon Company now is occupying its new office and factory building at 400 South Rockford. The plant is modern throughout and has been necessitated by the increasing volume of business throughout the oil country. Walter O'Bannon is president of the company and the directing head of the organization.

The new factory affords about 6000 square feet of floor space and new equipment has been installed throughout. A complete heat-treating plant also is being added, so that every advantage, from the treatment of metal, will be obtained in the manufacture of the O'Bannon oil field specialties.

W. A. Tracey, export buyer for the Sinclair Refining Company with headquarters at Dallas, has returned from a motor trip to New York, Philadelphia and other Eastern points, where he visited former friends and associates in the oil business.

Nigger Creek Stops Moving of Mexia Tanks

Mexia, Texas.—The removal of steel storage tanks from the Mexia-Corsicana district will be halted now that there are possibilities that this tankage may be needed in the near future to serve the Nigger Creek, or other fields that are expected to be uncovered by the extensive wildcat campaign being planned for the East Central Texas fault regions. Magnolia Humble and Gulf have been dismantling their surplus storage tanks in the district and shipping them to other sections of the state for service, and at the time of the Nigger Creek discovery Humble was planning to knock down 20 55,000-barrel tanks and four 80's.

The Mexia-Corsicana district has a total of 33,380,000 barrels of storage facilities in large steel tanks, and at the close of June a total of 15,729,675 barrels of mixed grades of crude were stored in this tankage, thereby indicating that more than half of the total capacity was standing idle. A total of 37,604,000 barrels of storage room was located in the district on the first of the year, and at that time crude stocks amounted to 19,196,025 barrels. Withdrawals of crude stocks have been almost continuous since the first of the year, and during June 990,950 barrels were taken out of stocks and moved to Coastal points.

Texas Test at Evangeline Shows Salt Water

Houston, Texas.—The Texas Company's Guillory No. 1 wildcat at Pine Prairie dome, near Easton, in Evangeline Parish, Louisiana, after showing good prospects of opening new productive territory for several days early last week, tested salt water at 2745 feet, and is being drilled deeper. A sand at 2745 feet showed considerable oil.

The history of Pine Prairie dome shows that three or four dozen dry holes have been drilled in past years following what appeared a coming field more than 15 years ago. At that time, reports show, the Myles Mineral Company drilled in a producer while drilling for salt production. Engine trouble caused the hole to be jammed with rods and tubing, and later it was junked after producing considerable oil.

Good Flow From Shallow Depth at Boling

Houston, Texas.—The best shallow producer completed in the Texas Gulf Coast in recent years was flowing 576 barrels of pipe line oil from a total depth of 408 feet July 19, after being brought in July 17 for practically that initial by James Weed et al on the Kellar 80-acre lease on top of Boling dome, in Wharton County. Gravity of the crude tested 18.2 Baume. The well is producing from 12 feet in the honeycomb pay, unusual in the Coastal territory, except just above the cap rock of salt domes.

The Banker No. 1 well, completed more than two months ago by Weed et al at a location about 500 feet from the new producer, is reported still flowing approximately 120 barrels of heavy crude.

Weed et al are now getting the most profitable production from the Boling vicinity since deep sand around the flanks of the dome are failing to pay off as expected during the deep drilling rush early this year, following completion of The Texas Company's 10,000 barrel discovery in the Taylor 3, to the southwest of the dome. James Weed is the discoverer of first production at Boling, bringing in a 25-barrel well from slightly below 400 feet shortly after the Gulf Production first struck the salt, more than two years ago. Prior to and during the rush for deep production off the edge of the dome Weed et al have continued development of the shallow pay on the top of the dome.

300 Barrel Well Opens New Pool in Pontotoc County, Oklahoma

Tulsa, Okla.—Indications of a new Oklahoma oil pool in Pontotoc County are held in production from the wildcat of B. A. LaSalle. The well in the northeast corner of the southwest quarter of section 28-5-5, on the Minor Copeland farm, was completed at 2325 feet last Sunday and has been flowing at the rate of 300 barrels daily since.

This well is a mile and a half north of the old Bebee pool. Production is thought to be coming from the Hunton lime. The lime was encountered at 2195 feet and followed through a series of breaks to its total depth. Oil was encountered four feet above total depth.

The area has been prospected intensely for the past few years. Regardless of performance of this well or the size of a pool that may be developed, indications are that wildcat operations will be carried still more extensively in Pontotoc County and surrounding territory during the remainder of the year as the result of the performance of this well so far.

Most drilling in Oklahoma is now confined to proven territory. The week just past showed 126 completions, with 38 dry holes. This is unusual on two scores, first the number of completions is excessive for this time of the year, second the number of dry holes proves that drilling is being done where territory is proven.

Harry Simms, member of the production department of the Gulf Production Company in the Houston office, returned early this week from a vacation of two weeks spent in Southern Louisiana and East Texas.

Monroe Latham, of the Humble Oil & Refining Company production department at Houston, left last week for San Antonio and Southwest Texas to spend a vacation of two weeks.

Offer of 800,000 Barrels Crude Goes Begging As Nigger Creek Weakens Market

Tulsa, Okla.—Failure of an offer of 800,000 barrels of Oklahoma crude oil to find ready taking is evidence of weakness in the market at present.

The oil is on the market by T. B. Slick, who has been storing part of his production for more than two years. Most of it is at Tonkawa.

All conditions of the offer are not publicly known. It is thought, however, that the offer involves sale of the tanks, as well as pipe line connections with the leases owned by T. B. Slick. If a premium is being asked, its amount is not publicly known.

Two months ago this amount of oil would have resulted in some bidding from several quarters. At present, however, some of the larger concerns, whose storage figures are being reduced are making no effort to buy the Slick oil. Some do not want it at the posted price.

It is not likely that the oil offered by Mr. Slick will fail to sell. But the fact that it is not being sought by several bidders is an indication of a weak crude oil market in the Mid-Continent.

On the score of location the Marland Refining Company is best suited to take oil from the Slick tanks at Tonkawa. The field is less than 20 mlies from the Marland refining plant at Ponca City and pipe line facilities are ample for handling it on any basis.

Another logical buyer is the Champlin Refining Company at Enid. Champlin buys the bulk of oil run at Enid, where capacity is around 15,000 barrels daily. The Champlin company has a pipe line to Tonkawa.

Neither of these concerns is known to be bidding on the Slick oil.

Decision to sell marks a departure from a course adopted some two years ago by T. B. Slick. When he began holding his oil it was with the view of reaping profit through higher prices. Prices are higher than when this policy was adopted. But the oil is not scheduled to bring as much now as it would have two or three months back, when premiums were common in Oklahoma.

Several concerns need oil in Oklahoma. So the apparent reluctance to buy this large offering is an indication of a belief that needs can be met later at lower prices.

Both Amarillo and the Nigger Creek strike in Texas are responsible for the belief in lower crude oil prices. And Nigger Creek is being given more consideration than Amarillo. Students of development remember the speed with which a Balcones Fault field can be developed. The most striking example of this was at Wortham, where peak production was recorded 45 days after the first well was completed.

Besides ease of drilling, the Nigger Creek possibility is one already provided with ample pipe line facilities. So far the major pipe line companies have held aloof from building a trunk pipe line into Amarillo, although several have made preliminary investigations.

The Mid-Continent crude market is weak just to this extent. An offer of a large supply of oil is beyond the financial and physical facilities of the average independent refiner. Many of these might consider smaller amounts of oil. But the concerns with money and facilities to handle a transaction involving 800,000 barrels of high grade crude oil are not disposed to bid for it eagerly. Earlier this year, they might have sought is eagerly.

The gasoline market is holding firm at 11¼ cents for U. S. Motor specification product.

Butler County Well Opens New Kansas Territory

Tulsa, Oklahoma.—In No. 1 Feward, 12 miles east of Leon in Butler County, the partnership well of the White Eagle Oil & Refining Company, Gypsy Oil Company and Abel and Finney have either opened another Kansas pool or extended the Keighley field two and one half miles. Oil was encountered at 2638 feet, where the Bartlesville sand was entered. At 2669 feet the hole filled 400 feet with oil. The well is estimated good for 200 barrels.

The best well for the week in Kansas was No. 2 Walstein of the Walstein Miller Oil & Gas Company in the southwest corner of the northwest of the northeast of section 2-21-6, in the heart of the Hutchinson pool in Rice County. It has been producing at the rate of 1000 barrels a day for more than a week. While the well is in proven territory it will result in considerable drilling. Prairie has three locations to drill.

In Cowley County eight locations have been staked around the wildcat producer of the J. A. Hull Company in section 15-32-4. The Hull well continues to flow steadily and evidently has opened a new pool.

W. E. Ramsey of Oklahoma City is in California on a business trip. California men have joined the Ramseys in drilling two wildcat tests in Cimmaron County, Oklahoma.

J. H. McEvoy of J. H. McEvoy & Company, manufacturers of the well known McEvoy Wireless Screen, is in California on business. J. H. McEvoy, Jr., is now on his way to California, driving through in his car. J. H., Jr., is accompanied on the trip by R. J. Ward, who is making a tour of U. S. fields studying drilling methods after recently resigning from the British Bureau of Mines in Egypt.

Production in Poland

Washington, D. C.—The production of crude oil in Poland continues to hold up in spite of a reported decline in the number of producing wells, according to advices to the Department of Commerce from Assistant Trade Commissioner L. J. Cochrane, Warsaw. However, the number of workmen in the industry has diminished to 70 per cent of the 1925 figure.

Drilling for petroleum in Poland during 1925 totaled 265,336 feet, compared with 332,268 in 1924 and 310,517 in 1923, showing a decrease of 20 per cent from 1924 and 13 per cent from 1925, according to a statement published in Poland. The greatest activity was in Drohebyes in all three years, amounting to 142,775 feet in 1925. Krakow, not represented in the record for 1923, had 1650 feet in 1924 and 2615 in 1925; the increase in this district is accounted for by increased prospecting in several new fields. A marked decrease in the Jaslo district is attributed to the discontinuation of the drilling of 34 wells started in 1923-24, due to lack of capital and the unsatisfactory results obtained from some wells. There was a small decrease in Drohebyes, but the largest decline, about 40 per cent, occurred in the Stanislaw district, where one company discontinued the drilling of a number of wells after having reached the depth required by the contract to retain the lease rights.

The Polish petroleum refinery branch, whose business suffered from the recent restriction of the German market, has been further depressed by April advances in the French import tariff on lubricating oils, minerals and crude oil waste.

The Polish Petroleum Cartel continues to expand its operations. In March it assumed the direction of the sale of paraffin and gasoline, and it also controls the exportation of paraffin and by an arrangement with the Scotch refineries, now participates in an organization which is claimed in Poland to represent 20 per cent of the world's paraffin production and to predominate on the French and Belgian markets for this commodity.

Oil in Winkler County Wildcat Opens Up Big Area

San Angelo, Texas.—Oil production was uncovered in Winkler County during the past week by the first test ever drilled in the county, thereby opening up a wide scope of territory in the western part of the state that has not heretofore been generally considered as productive area. R. A. Westbrook & Company, a promotion enterprise of Fort Worth, developed a small flow of oil testing about 31 gravity from its wildcat test on the T. G. Hendrick ranch, located on the so-called Monument Draw structure near the inland town of Kermit.

This new discovery well developed a flow estimated at 30 barrels late Friday night after drilling about 25 feet into an oil saturated formation to a total depth of 2525 feet, and made the flow early Saturday morning. The oil bearing formation has not been definately identified, but is believed to be a sandy shale, or anhydrite. About 700 feet of open hole was being carried at the time oil was encountered, and after the flow was made fluid stood 1800 feet in the 10-inch hole. Cavings later filled in about 10 feet off bottom, and late reports from the well state that 8¼-inch casing is being run to clean out and test the production before going deeper.

The appearance of oil in this Winkler County wildcat furnished a surprise to many of the companies operating in the West Texas district, as the top of the salt, which was logged at 1930 feet with a surface elevation of 2806 feet, was much lower than ordinarily found in producing wells, therefore caused little attention to be paid to the progress of the test. The well is located in the southeast corner of section 42, Public School Lands, block B-5, and is one of the most difficult wildcats to reach in the western part of the state, owing to no railroads serving the county, while loose sand on the surface makes overland traffic difficult.

Westbrook & Company financed the drilling of this wildcat mostly through the sale of leases in five and ten acre tracts at $5 and $10 per acre, while a few companies also bought large tracts for protection. Among the companies holding general lease protection are: Gulf, Pure, Humble, Maxwell & Turman, Johnston & McCamey, Gilliam-Logan Oil Company, Eastland Oil Company, Republic Production Company and Independent Oil & Gas Company. Garrett Donnelly of the Eastland Oil Company contracted for the drilling of the test to a depth of 3000 feet.

Gulf Production Company's wildcat test on the Sanger land, located at the center of the north line of section 14, M. K. & T. survey, block 3, and three miles north of the Hurdle field in Upton County, was standing with 250 feet of oil and some water at 2780 feet. This test has a surface elevation of 3119 feet, being much higher on surface than the Hurdle wells, and logged the top of the salt at 1130 feet, and the big lime at 2684 feet. Gulf's wildcat discovery on the McElroy ranch in section 203, near the Crane-Upton County line, was drilling deeper from 2744 feet early this week after having averaged 190 barrels daily by natural flow for the past six days. Humble is taking this oil, and paying Mid-Continent gravity prices.

The Chalk shallow field in southeastern Howard County added several new oil producers during the past week, including a 30-barrel flowing well from Magnolia Petroleum Company's Chalk 1, which logged broken pay at 1570-73 feet and 1599-1606 feet, with a total depth of 1608 feet. Magnolia is stringing a four-inch line from its Iatan tank farm and loading rack to gather this oil, and compete with Marland for other production in the Chalk pool. Lockhart & Company's Chalk 1 is reported standing with 1200 feet of oil in the hole after drilling pay at 1553-86 feet. Owen-Sloan Oil Company, discoverers of the shallow pool, failed to make a flowing well from their second test after giving it a light shot in pay at 1565-1607 feet, and will obtain a small pumper at the most.

Marland Oil Company's Sanger 6, which came in July 11, flowing 1500 barrels initial from regular sandy-lime pay at 2194-2228 feet and furnishing the second big completion for the Hurdle district, quit flowing on Monday after having made 475 barrels on the day previous and 730 barrels three days previous. Dixie Oil Company's Hughes 2, which came in July 3, flowing 3000 barrels natural at 2025-49 feet continued to make above 1800 barrels daily. The performance of these two wells has had a stimulating effect on drilling in the Hurdle district.

One Completion Per Day Due at Spindletop

Beaumont, Texas.—An average of one completion a day for the next 10 days is expected in the deep sand drilling campaign off the south and west sides of Spindletop. At the opening of this week 21 wells were drilling, six were rigging up and material being rushed to nine others. Paggi Brothers' Gordon 1 was the first well due to complete with a sand at 2791 feet. The Gulf had two wells on the Weed tract and one on the Mann tract nearing the pay with two others drilling, four rigging and four locations. Rio Bravo had two nearing pay, one drilling and a fourth rigging to drill, Yount-Lee Oil Company had five wells drilling with three additional locations, the Sun Company one well drilling and one location, Atlantic two locations and seven independent companies and individual operators with one well each drilling, including Paggi Brothers, Unity Oil Company, Seven Oil Company, Barbe et al, K. Kishi, B. Deutser, and Porch & Telshaw.

Gulf Production Company last week paid Hines et al $140,000 cash and an additional consideration of $50,000 to be paid in oil for one and one-quarter acres with one well producing approximately 1750 barrels. A second location had been made and the Gulf added two additional locations. The tract bought was the Quinn block to the west of the Gulf's Weed acreage and to the north of Yount-Lee's Gladys City tract.

Atlantic Oil Producing Company has entered the Spindletop deep sand pay after taking over the Marrs McLean five acres to the south of the center of the play for a consideration of $100,000. It is on this tract that two locations for drilling have been made by the Atlantic.

Thirteen producers in the extension area were producing approximately 23,000 barrels daily at the opening of this week.

Pittsburgh Steel Products Opens Houston and Tulsa Offices

Houston, Texas.—Announcement has formally been made of the opening of an oil country sales office for the Pittsburgh Steel Products Company in the Second National Bank Building here, with J. R. Edwards in charge of oil country sales.

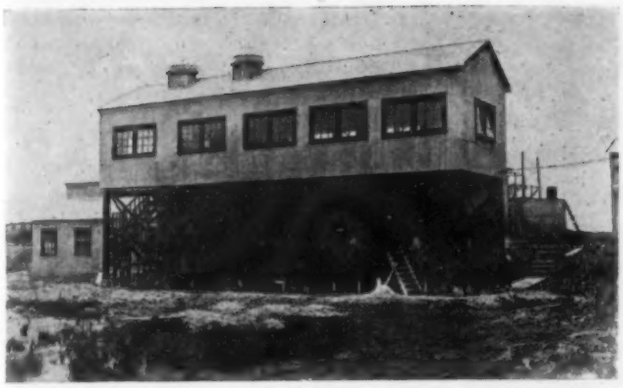
J. R. Edwards is well known to the oil fraternity, having covered all the oil fields of the United States and Mexico many times.

A. S. Vandervoort, Jr., also well known to the oil men of the southwest will be local representative of the Pittsburgh Steel Products Company with his office at the Houston headquarters.

The company has opened an office at 306 Atlas Life Building, Tulsa, with S. E. Elder, local representative.

Seamless drill pipe, casing and tubing are the products of the company principally in demand by the oil production business and in order to insure prompt shipment yards have been established at Memphis. The headquarters of the company are at Pittsburgh.

Blaine Johnston, general superintendent of the Crown-Central Petroleum Corporation, Houston, has returned to his home office from a tour of New Mexico and Colorado fields.



Lime house where milk of lime is made by mixing lime and water

300,000,000 gallon reservoir for raw water storage with plant in background.

Mixing Well and Surface Waters Offsets Objectionable Qualities of Both

Freeport Sulphur Company effects economy in treating boiler water with special process

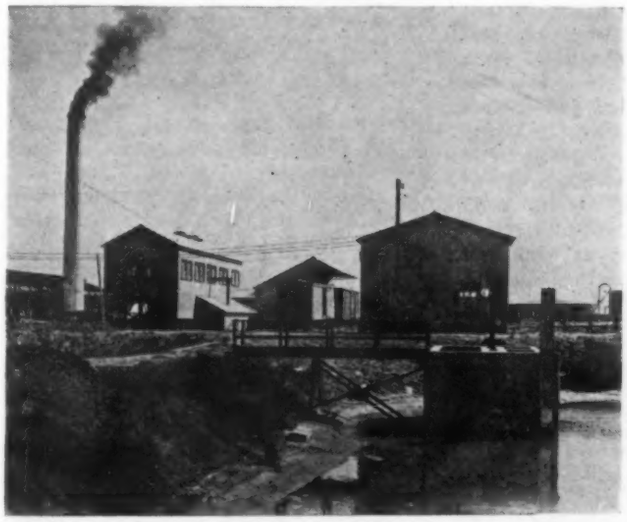
Freeport, Texas.—Through a double system of treating water for its boilers in the plant at Hoskins Mound, Brazoria County, the Freeport Sulphur Company offers to the world methods which have been proven as proficient as they are economical. The company's system of lime treating combined with its system of mixing creek water or river water with well water to eliminate certain chemical properties, which are detrimental to boilers, water lines and heaters, has considerably cut the cost of operation and gives one of the best examples of success to be found in this territory.

Surface waters available usually have a fairly large content of calcium and magnesium, which produce a hard, dense scale on the lining of boilers or other equipment having an iron surface lining. The ordinary water reagent for treating these impurities is soda ash. The company has found in Gulf Coast well water a large quantity of sodium bicarbonate. This water, after being given lime treatment gives the same effect as that of soda ash, thereby serving to aid in treating the creek water and with greatly reduced cost.

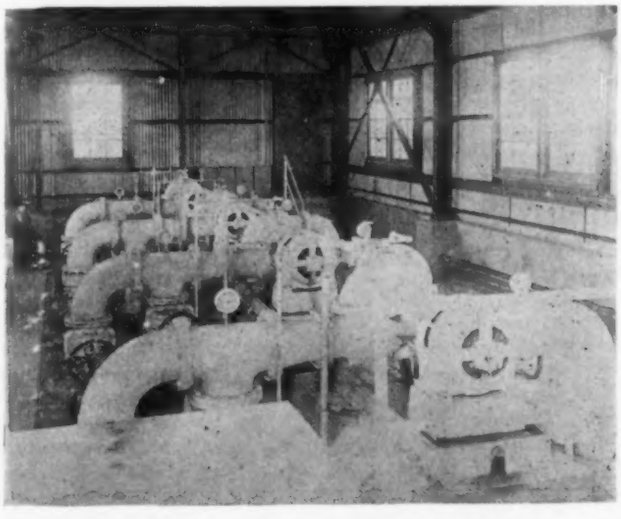
Nearly all waters, including those from wells, rivers and creeks, contain the bicarbonates of calcium and magnesium, both of which are also scale-forming when coming in contact with boilers, heaters and water lines. On treatment with lime these bicarbonates are converted into carbonates of calcium and magnesium. The latter are less soluble than the bicarbonates, and having a lesser solubility they precipitate when treated with lime, and settle as sludge, thus leaving the water clear and pure. The treating effect is brought to light when untreated water is used in the boilers, as the boiler would have the same effect as the lime treatment, precipitating the bicarbonates into sludge in the boiler tubes.

The mixing of the waters is done after each has been lime treated to eliminate the bicarbonates of magnesium and calcium, and it is here that the soda ash effect in the well water reacts with the sulphates in the creek water, bringing it to its pure stage before use in the boilers.

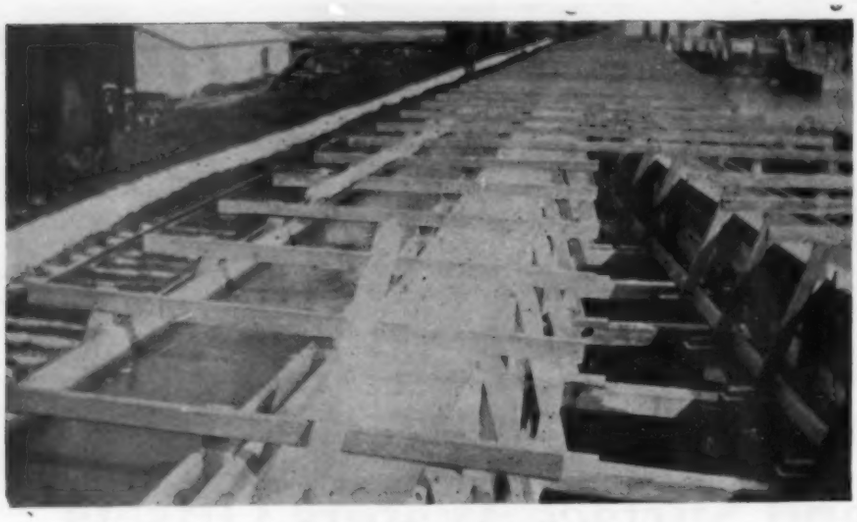
The two waters vary in composition to such an extent that the proportion in mixing runs from 10 per cent of one to 90 per cent of the other, and vice versa. In this phase of the work is found one of the greatest needs of chemists to properly proportion the waters so as to have a uniform treatment. In its work of water treating



Boiler house on extreme left with lime house to right, lime storage house in background and pump house on right. The intake from the well canal is on the lower right.



Pumphouse with four centrifugal pumps for taking raw water storage to treated reservoirs from well and bayou storage.



Flume where milk of lime is mixed with raw water

and other technical operations the Freeport Sulphur Company maintains a force of ten chemists headed by L. S. Bushnell as chief chemist.

The company has its lime house where the lime is slaked and diluted with water before using for water treatment. The proportion to make the milk of lime is one pound of lime to one gallon of water, which is thoroughly mixed in an agitator. The milk of lime is sprayed into the raw water at a definite rate just before the water enters a wooden flume about 200 yards in length, and the running through this flume produces thorough mixing. Sample tests are made every hour to determine the right amount of lime. After passing through the flume the water for use in the boilers is run into a 5,000,000 gallon reservoir for settling. In the course of time the reservoir fills up with sludge from treatment and has to be dredged. This sludge is usually composed of calcium and magnesium carbonates with some silt and possibly some sand particles. The purified water is pumped off of the top and into the boilers.

About eight to ten cars of lime are consumed each month by the company at both the Bryan Mound and Hoskins Mound plants, except at times when the water is extra bad and more lime is necessary for treatment. Four earthen water reservoirs are had at Hoskins Mound, including a 300,000,000 gallon reservoir for raw creek water, a 20,000,000 gallon for raw well water, a 15,000,000 gallon for treated mine water and a 5,000,000 gallon reservoir for treated boiler water.

Strike Oil in Lower Sand Of Old Wyoming Field

Casper, Wyo.—The Producers & Refiners Corporation has made a very important discovery in the old shallow Hudson (Wyoming) field by opening up a 400-barrel well in the Tensleep sand, which underlies the Embar, for 40 years the only productive horizon in the district. The company recently started a deep test to explore the deeper sands and production in the Tensleep proves the theory that it is productive in more localities than the Embar. The Hudson field is one of the oldest in the Rocky Mountains.

Marland Employes Organize Royalty Company

Ponca City, Okla. — The Marland Employes Royalty Company has been incorporated to engage generally in the oil and gas royalty business to afford an opportunity for the employes of the Marland Oil Company and its subsidiaries to invest in royalties. The royalty concern is to operate under the direct supervision and administration of officers and employes of the Marland Companies for the benefit of such employes and officers, thus enabling the saving and investing of a portion of their income.

The corporation is authorized by its charter to issue 500,000 shares, without nominal or par value, while the board of directors is authorized by the charter to sell at such time and for such price as they may see fit. A block of 250,000 shares has been made available for purchase at a price of $10.00 per share, payable in cash, according to an announcement made by P. B. Lowrance, president of the royalty company, and subscriptions will be restricted to officers and employes who have been in the employ of the Marland Companies for a period of six months, or more.

Warrants to evidence the right of employes to subscribe to the first issue have been distributed on the basis of ten per cent of annual salaries. These warrants entitle the employes to exercise one-half of their rights on or before July 31, 1926, and the other half on or before October 15th, 1926. The warrants become void if not used prior to the expiration date. These warrants are transferable to employes of the Marland Companies only, and may be exercised by such employes by surrendering the same to the company and payment of $10.00 per share in cash.

Since the royalty business is necessarily somewhat of a speculative nature, the officers only undertake to see to the honest and fair administration of the affairs of the company, and can not and do not undertake to guarantee any specified dividend rates, or earnings. Several royalty concerns have been organized heretofore by officers of the Marland Companies, and later liquidated at attractive profits to the shareholders. The new concern is the first to be made open to all employes, and royalty purchases have already been made in various sections of the Mid-Continent district.

The officers of the Marland Employes Royalty Company follow: E. W. Marland, chairman; P. B. Lowrance, president and vice-chairman; John K. Cleary and J. S. Alcorn, vice-presidents; F. Park Geyer, director; H. L. McCracken, secretary; Seward R. Sheldon, treasurer; Ellen Wolfe, assistant secretary-treasurer.

Geologists Headquarters Opened at Tulsa

Tulsa, Okla.—Temporary offices for permanent headquarters of the American Association of Petroleum Geologists have been opened in the Tulsa Public Library. This will serve until the New Chamber of Commerce building is completed.

As soon as files can be moved from Norman, the work of the office will be organized. J. P. D. Hull, business manager, is here. His duties will consist largely of those formerly taken care of by the secretary-treasurer and the editor.

Miss Whelan, who has been assistant to the secretary-treasurer at Norman, has been employed to work in the Tulsa headquarters.

Frank Buttram, president of the Buttram Petroleum Company, is in California with his family and likely will spend the greater part of the summer there.

Ed F. Horrigan, formerly a member of the production department of The Texsa Company at Cisco, Texas, has resigned to go with the Vacuum Oil Company in the Cisco district, effective July 15.

R. A. Wilson of the Guiberson Corporation, Dallas, was a visitor in Houston last week.

Paul Brower, assistant superintendent of production for Vacuum Oil Company in the Southwestern division, writes back to his fellows at Houston that New York is a great place to spend a vacation. He thinks they need more Texans to show them how to run certain parts of the town right.

Outlines of Methods for Mining Oil

(Continued from page 34.)

were not sufficient to cope with conditions arising in a large mining operation of this nature.

A small oil mine using the Pechelbronn system is also reported from the Baku district in Russia.[31]

In the Athabaska district of Canada a shaft was sunk to a depth of 40 feet in order to produce oil from the tar sands by means of mine drainage, but the heavy oil would not seep in to the mine.[32]

So far as known to the writer the only mine in the United States which operates in oil-bearing rocks is at Ravenna, Estill County, Kentucky.[33] A shaft was sunk 130 feet deep to the top of the Onondaga (Coniferous) limestone, which is the oil-producing rock in this field and the shaft produced 5 barrels a day for about a year.[34] Later the opening in the limestone was widened and holes were drilled horizontally into the oil rock in order to increase the production. No information on the results is available. This undertaking seems more experimental than commercial. Since the oil is found in cavities of a limestone, the conditions are very different from those encountered in the European oil mines.

According to a recent newspaper report a shaft started at Newport Beach, California, has reached the oil sand.

Different Mining Methods

Both the mines at Pechelbronn and at Wietze produce oil which is high in lubricants and low in gasoline. The Pechelbronn oil is 31 degrees Be.[35] and contains about 4 per cent gasoline,[36] while the Wietze oil is of 19 degrees Be. and furnishes only 1 per cent of gasoline.[37] Therefore, in these mines there is little gas and not much gasoline vapor, which makes it possible to keep the mines well ventilated and thus to reduce the fire and explosion hazard to a minimum. Two serious accidents have occurred at Pechelbronn,[38] but with elaborate safety devices, partly installed after these accidents had furnished experience, the management feels able to cope with these dangers.

Up to the end of 1922 five men had been killed underground at Pechelbronn,[39] but only two of these deaths were due to accidents peculiar to oil mining. The death rate averages one death to 60,000 working days,[40] which is about equal to the underground death rate in the coal mines of the United states.[41]

Most of the oil deposits of the world contain more gas and especially more gasoline and would be more dangerous to mine than the deposit at Pechelbronn. Proper ventilation might be too expensive if possible at all, and a considerable part of the light products might be lost on account of evaporation. Therefore, engineers have given much attention to means to avoid or minimize the dangers. Many improvements have been made in the Pechelbronn mines in ventilating, lighting, in carrying on the underground work and in handling the seepage oil.

The working method used at Pechelbronn from 1875 to 1888 indicated that the main galleries might be located to advantage outside of the oil sand. This suggestion was made by Langrogne.[42] and recently put into operation at Pechelbronn. These new galleries are located above the oil sand and the oil is drained by slits cut into the oil horizon, which are covered up, so that not so much gas gets into the galleries. The gasoline vapors being heavy will mostly stay below the covers. Rich has patented such a process in the United States,[43] the patent covering also the application of fluids (water, steam, air, gas, etc.) through wells drilled inside of blocks or pillars surrounded by channels or galleries.

A process worked out by Ehrat, who has been connected with oil mining for years, is based on a different principle. The galleries are dug entirely outside of the oil sand above or preferably below, or both, or on the side, if the dip is steep, and the sand is tapped by shallow drill holes spaced at short intervals. These wells are equipped with short casings or nipples set tight, so that the sand is completely sealed. Thus any pressure present in the oil-bearing rock can be fully utilized. After the wells cease to flow, other methods of getting production, like vacuum, compressed air, flooding, etc., can be used and these agencies can be regulated much better than can be done at present from the surface. Patents[44] for the Ehrat process have been granted or are pending in most of the oil-producing countries. The Ehrat process has not been sufficiently tried to permit final judgment as to its merits, but it seems to solve the problem of mining light oil.

During the early period of mining at Wietze, before the galleries had entered the oil sand, some oil was produced by tapping the sand from the mine by means of the drill.

At Pechelbronn sands occurring in the vicinity of the horizons mined by galleries, but too thin to pay for establishing a separate level, are drained by the Ehrat process.

Near Jacksboro, Texas, an experimental mine is in operation, which uses the Ranney process,[45] which is identical in principle with the one just described. The mine is claimed to be a success.

While running the galleries outside of the oil-bearing rock has a big advantage in high-grade oil fields and also in others where considerable gas or water is present, the Pechelbronn system is preferable, where it is expected later to mine the sand and extract the remaining oil.

Economic Aspect of Oil Mining

In the light of ultimate recovery, oil mining is a great improvement and it is merely a question of time as to when we will have to mine the oil-bearing rocks and extract the oil from the material brought to the surface.

At Pechelbronn, the only oil mine which has been in operation long enough to afford definite figures, mining of oil has proved to be a financial success. Figures on costs cannot be compared very well on account of economic conditions of the war and post-war time.

The cost of mining oil at Pechelbronn was about 30 per cent higher than the cost of producing oil by wells in the same field.[46] Experience has led to a reduction of mining costs and they are now supposed to be practically the same as the well costs. Under wartime conditions the first mine at Pechelbronn paid for itself with the production of the first three months.[47] It must also be remembered, that 17 per cent of the oil contained in the sand had already been pumped out through the wells.

The biggest saving of an oil mine compared with wells is in the lifting expenses, because in mining, the oil of a large area can be handled with one large pump.

Mining will have to be undertaken in many other places to determine its practicability and cost under various conditions. While the actual cost of producing oil by mining under different conditions, especially as they exist in the United States, cannot be determined yet, it compares favorably with the cost of producing oil out of shale. Under the most favorable conditions oil can be produced as cheaply if not more cheaply by mining as by wells, and oil mining is quite feasible under present conditions in the oil business.

While in developing an oil field by the drilling method a comparatively small investment furnishes quick results, pays for itself with flush produc-

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[31]The Oil and Gas Journal, Vol. 22, No. 26, p. 56.

[32]The Oil and Gas Journal, Vol. 23, No. 21-A, p. 104.

[33]Willard Rouse Jillson, "A New Method of Producing Crude Oil in Kentucky," Kentucky Geol. Surv., Ser. 6, Vol. 6 (1921), p. 149.

[34]John McMinn, personal communication.

[35]Paul de Chambrier, "Draining Oil Reservoirs by Shafts and Tunnels," Engineering and Mining Jour., Vol. 112, No. 3, 1921.

[36]Paul de Chambrier, "Etude economique, etc.," p. 8.

[37]Charles Camsell and Arthur Buisson, op. cit.

[38]M. Lagrogne, op. cit., p. 14.

[39]C. Schlumberger, op. cit., p. 14.

[40]Paul de Chambrier, "Les mines de petrole, etc.," p. 28.

[41]William W. Adams, "Coal-mine Fatalities in the United States, 1923," U. S. Bureau of Mines, Bulletin, 241, 1924, Table 49.

[42]M. Langronge, op. cit., p. 29.

[43]John L. Rich, "Process for Extracting Petroleum by Underground Workings," U. S. Patent 1,507,717, 1924.

[44]Adolf Ehrat, "Improvements in or relating to the Recovery of Petroleum and Natural Gas," British Patent No. 175,116, 1922.

[45]Lawrence E. Smith, "New Method of Producing Oil Is Given First Test in Jacksboro Field," Nat. Petr. News, Vol. 16, No. 45 (1924), p. 63.

[46]C. Schlumberger, op. cit., p. 16.

[47]Paul de Chambrier, "Les gisements, etc.," p. 23.

tion, and furnishes a small but steady income from settled production, oil mining requires a large investment at the start. The initial investment for a real oil mine may exceed one million dollars figuring on two shafts, all the machinery, pipe, tankage, buildings, road or railroad construction, etc., an amount, which is not unusual in other large industrial plants. There are no returns while the first shaft is being sunk and it may take two or three years to get operations in full swing. Income will start with the driving of the galleries, which can be constructed on the "pay as you go" plan. Production will increase until the largest part of the field is tapped, which means several years. From then on production will compare with settled production of wells. Large flush production endangering the market will not occur. In times of low market, production can be diminished by shutting down development and in times of high market, the driving of the galleries can be pushed. This means that a producer can sell a large part of his production at a high price. If advisable, oil can be stored at very little expense in unused parts of the mine.

Mining is not only a method to obtain additional oil from exhausted or nearly exhausted fields, but should be used for the exploitation of virgin deposits adapted to this method. To develop them first by means of wells is an economic waste, inasmuch as mining will have to be resorted to in the long run. Only enough tests, preferably with a core drill, should be put down to determine the number, depth, and thickness of the sands and to outline the pool. Where the structure is known and sands are fairly regular, one well showing the water table in each sand is sufficient for determination of the productive area. Cores of the sand are necessary in order to determine the porosity and oil content of the rock, permitting one to ascertain whether mining is likely to pay or not.

Essential Conditions for Oil Mining

Oil mining should only be undertaken where sufficient oil to pay for a large investment can reasonably be expected. It is very important to know the gasoline content of the oil and the gas and water contents of the sand in order to decide whether the mining operations can be carried on in the sand or if the galleries shall be driven outside of the oil-bearing stratum. The depth should not be excessive. While the Pechelbronn mines are only 150-250 meters (500-800 feet) deep, depths of 2000 or even 3000 feet may not be prohibitive. Inasmuch as oil mining is still more or less in the experimental stage, shallower fields should be mined first, because initial expenses especially for the shafts increase with depth.

Of prime importance also is the size of the field or pool. If the area is too small, the sinking of a shaft does not pay. Because of the need for ventilation and as a safety measure, two shafts are preferable to one. In some countries two shafts are specified by the mining laws, but, of course, a shaft of large diameter could be divided into two sections which, with proper insulation, would be nearly as good as two separate shafts. Two shafts are sufficient for a field of several square miles, which is an area much in excess of the average oil property in the United States. Therefore, owners of leases in a common pool ought to get together and operate a mine jointly.

Information about the rocks, through which the shafts must be sunk and about the oil sand can be obtained from old wells, providing proper records have been kept. Usually it will be necessary to drill a number of core drill holes to get the necessary information. It is important that abandoned holes have been properly plugged or are in a shape to be plugged; otherwise they may cause trouble. Plugging of abandoned wells and dry holes is compulsory in most places, but often the plugging laws have not been properly enforced. In old fields even the location of some of the holes is unknown. Some old wells could be used for ventilation, for pumping oil out of the mine, or for conveying compressed air or steam to the workings.

Present oil and mining laws devised for other purposes may be harmful to oil mining or at least may not give it sufficient protection. However, most government agencies are awake to the importance not only of developing, but also of conserving the oil resources. As oil mining is conservation in the highest sense of the word, the governments will certainly encourage it.

Summary

As far as ultimate recovery is concerned, draining oil sands by mining methods is a great step forward and leads to the final step, namely mining of the oil rock and extracting the oil.

Economically, oil mining is a success at least in fields which are best suited for this method. Much experience leading to improvements will be gained as soon as mines are started under conditions different from the ones at Pechelbronn or Wietze.

Working underground in or near the oil-bearing rocks will furnish geologists much new information about origin and migration of oil and it is to be hoped that observations by competent men are carefully recorded and published for the benefit of science and the oil industry.

Big Well at Big Creek Breaks Two Records

Houston, Texas.—The biggest high gravity well yet completed in the Gulf Coast territory, according to records, was brought in by the Gulf Production Company July 15, when the Davis No. 29, at Big Creek, Fort Bend County, began flowing 5000 barrels 43.1 degrees Baume from a total depth of 4100 feet.

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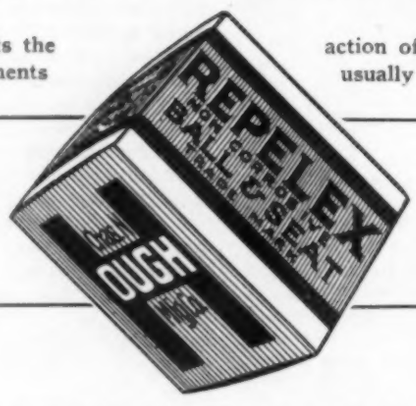

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Products that cut down your underground overhead

AVERAGE DAILY PRODUCTION FOR U.S.

United States Daily Average Production by Weeks

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

Week Ending	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Total
January	449,370	100,130	260,180	90,290	43,990	181,190	101,000	102,300	621,300	1,946,980
February	450,037	101,937	245,989	91,550	45,090	169,676	99,000	98,412	605,250	1,909,637
March	454,762	103,300	260,262	92,712	48,787	165,312	97,625	102,325	604,500	1,929,562
April	467,175	101,825	263,612	88,812	50,562	169,824	100,875	106,675	600,000	1,947,387
May	463,750	105,690	277,700	94,550	58,150	175,430	105,700	112,300	602,720	1,995,990
June 5	455,850	107,450	298,750	90,850	61,450	173,350	106,500	110,750	604,500	2,009,450
June 12	458,400	107,200	302,000	91,000	60,700	170,550	106,500	114,100	603,700	2,014,150
June 19	458,900	107,750	301,750	86,150	59,250	165,200	106,500	113,600	609,500	2,007,600
June 26	462,650	108,150	306,250	91,650	60,250	162,450	105,500	114,250	610,000	2,021,150
July 3	458,450	109,350	315,450	101,050	60,300	163,650	105,000	114,800	610,400	2,038,450
July 10	453,200	109,500	324,450	112,100	57,550	162,450	104,500	97,100	611,800	2,032,650
July 17	454,200	109,650	331,400	109,050	56,100	162,400	104,500	110,200	616,900	2,054,400
Increase over past week	1,000	150	6,950	.....	.....	.....	.....	13,100	5,100	21,750
Decrease over past week	.....	.....	.....	3,050	1,450	50	.....	.....	.....	.....

Texas

NORTH TEXAS

	July 17	July 10
Burkburnett	11,850	11,900
Electra	16,450	16,450
Iowa Park and K-M-A	4,500	4,600
Wilbarger	15,700	15,200
Panhandle	62 000	54,500
Petrolia	500	500
Archer County	32,700	32,600
Others	4,500	4,500
Total	148,200	140,250

EAST CENTRAL TEXAS

Mexia	12,800	12,600
Currie	800	800
Richland	1,600	1,550
Corsicana-Powell	29,900	29,950
Wortham	7,450	7,500
Others	2,600	.....
Total	55,150	52,400

WEST CENTRAL TEXAS

Stephens County	11,800	11,850
Eastland County	5,700	5,750
Desdemona	1,750	1,750
Young County	6,100	6,800
Palo Pinto County	450	450
Callahan County	3,550	3,550
Shackelford County	8,950	9,350
Reagan County	29,800	31,850
Others	19,850	20,750
Total	88,650	92,100

SOUTHWEST TEXAS

Luling	21,700	22,450
Mirando	10,500	9,800
Somerset	2,050	2,050
Lytton Springs	4,400	4,600
Piedras Pintas	200	250
Others	550	550
Total	39,400	39,700
Tot'l Tex. (outside Gulf Coast)	331,400	324,450

GULF COAST

Goose Creek	8,800	8,750
Hull	17,950	18,250
Saratoga	1,400	1,400
Blue Ridge	750	500
Damon Mound	850	650
Batson	1,350	1,350
West Columbia	8,750	8,950
Humble	4,000	4,100
Pierce Junction	2,150	1,200
Sour Lake	5,050	5,300
Spindletop	24,500	26,800
Orange County	9,300	9,400
Edgerly	1,050	1,050
Evangeline	900	900
Vinton	7,050	7,050
Lockport	4,200	5,300
South Liberty	6,250	5,700
Big Creek	950	1,050
Boling	1,700	2,250
Others	2,100	2,150
Total	109,050	112,100

Oklahoma

North Braman	3,350	2,650
South Braman	8,750	10,300
Blackwell	4,100	4,050
Hubbard	1,850	1,850
Thomas	2,400	2,550
Tonkawa	37,750	40,150
Garber	33,300	34,600
Burbank	44,050	44,250
Osage (Outside Burbank)	34,400	34,400
Watchorn	3,000	2,850
Cushing	21,650	21,650
Yale Jennings	15,800	15,950
Davenport	8,500	8,600
Bristow-Slick	29,650	29,700
North Okmulgee	17,450	17,500
Lyons-Deaner	4,200	4,250
Stroud	2,000	2,150
Cromwell	16,600	17,300
Papoose	10,200	10,550
Wewoka	33,350	29,300
Duncan District	7,250	7,250
Graham	10,700	9,500
Fox	5,050	5,050
Healdton	14,750	14,750
Hewitt	11,550	11,600
Seminole	4,800	3,350
Others	67,750	67,100
Total	454,200	453,200

California

Santa Fe Springs	50,000	49,500
Long Beach	109,500	107,500
Huntington Beach	45,000	43,500
Torrance	30,000	29,000
Dominguez	22,000	21,000
Rosecrans	16,000	16,000
Inglewood	47,500	47,500
Midway-Sunset	94,500	94,500
Ventura Avenue	41,400	43,300
Others	161,000	160,000
Total	616,900	611,800

North Louisiana

Homer	5,700	5,650
Haynesville	9,750	9,800
Caddo Light	10,350	10,050
Caddo Heavy	2,800	2,700
DeSoto-Red River	3,900	3,900
Elm Grove	550	600
Bellevue	2,350	2,300
Cotton Valley	7,850	7,850
Urania	12,850	14,700
Total	56,100	57,550

Kansas

	July 17	July 10
Florence-Covert	1,800	1,800
Peabody Ebling	4,250	4,250
Eldorado-Towanda	13,900	13,950
Augusta-Fox Bush	5,050	5,000
Rainbow Bend	4,150	4,200
Russell	5,300	5,350
Greenwood County	45,400	45,550
Others	29,800	29,400
Total	109,650	109,500

Arkansas

El Dorado	7,500	7,450
Smackover Light	15,500	16,000
Smackover Heavy	125,100	124,650
Stephens	1,750	1,750
Nevada	2,100	2,250
Lisbon	10,450	10,350
Total	162,400	162,450

Mountain States

WYOMING

Salt Creek	50,250	32,200
Grass Creek	3,250	3,100
Elk Basin	800	750
Big Muddy	3,300	3,400
Lost Soldier	5,550	4,850
Rock River	2,850	2,850
Teapot Dome	700	1,550
Others	5,750	5,450
Total	72,450	54,150

MONTANA

Cat Creek	2,800	2,800
Sunburst	20,000	25,300
Others	200	150
Total	23,000	28,250

COLORADO

Moffats (Craig)	3,600	3,750
Fort Collins	5,200	5,150
Florence	450	450
Others	650	650
Total	9,900	10,000

NEW MEXICO

Artesia	3,000	3,000
Hogback	650	600
Rattlesnake	1,200	1,100
Total	4,850	4,700
Total Mountain States	110,200	97,100

EASTERN STATES

(Including Ill., Ind., Ohio, Pa., W. Va., Ky., and N. Y.)	104,500	104,500

PRODUCTION SUMMARY

East of Rockies	1,327,300	1,343,750
United States	2,054,400	2,032,650

CRUDE OIL PRICE QUOTATIONS

Current Postings

EASTERN STATES

	July 21 1926
New York Transit	3.40
Bradford District	3.40
National Transit	3.30
Southwest	3.30
Eureka	3.25
Macksburg	3.05
Gaines	2.85
Somerset medium	2.50
Somerset light	2.65
Cabell	2.40
Ragland	1.25
Corning	2.55
Keister	2.30

CENTRAL STATES

Illinois	2.37
Indiana	2.25
Lima	2.48
Plymouth	1.90
Princeton	2.37
Waterloo	1.35
Wooster	2.55

WESTERN KENTUCKY

Posted by Indian Refining Company for crude from Allen, Warren, Franklin, Davies, Barren, Cumberland and Monroe Counties

36 and above	2.05
33 to 35.9	1.95
32.9 and below	1.85

MID-CONTINENT

	Prairie Sinclair* Texas Gulf	Magnolia
Below 28	...	1.30
28 to 28.9 gravity	1.65	1.65
29 to 29.9 gravity	1.73	1.73
30 to 30.9 gravity	1.81	1.81
31 to 31.9 gravity	1.89	1.89
32 to 32.9 gravity	1.97	1.97
33 to 33.9 gravity	2.05	2.05
34 to 34.9 gravity	2.13	2.13
35 to 35.9 gravity	2.21	2.21
36 to 36.9 gravity	2.29	2.29
37 to 37.9 gravity	2.37	2.37
38 to 38.9 gravity	2.45	2.45
39 to 39.9 gravity	2.53	2.53
40 to 40.9 gravity	2.61	2.61
41 to 41.9 gravity	2.69	2.69
42 to 42.9 gravity	2.77	2.77
43 to 43.9 gravity	2.85	2.85
44 to 44.9 gravity	2.93	2.93
45 to 45.9 gravity	3.01	3.01
46 to 46.9 gravity	3.09	3.09
47 to 47.9 gravity	3.17	3.17
48 to 48.9 gravity	3.25	3.25
49 to 49.9 gravity	3.33	3.33
50 to 50.9 gravity	3.41	3.41
51 to 51.9 gravity	3.49	3.49
52 and above	3.57	3.57

NORTH AND CENTRAL TEXAS

Ranger North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran, Somerset, Big Lake and Nocona crude

	Somerset (Grayburg)	Humble O. & R Co.* Texas Co.
28 to 28.9 gravity	1.15	1.65
29 to 29.9 gravity	1.25	1.73
30 to 30.9 gravity	1.31	1.81
31 to 31.9 gravity	1.39	1.89
32 to 32.9 gravity	1.47	1.97
33 to 33.9 gravity	1.55	2.05
34 to 34.9 gravity	1.63	2.13
35 to 35.9 gravity	1.71	2.21
36 to 36.9 gravity	1.79	2.29
37 to 37.9 gravity	1.87	2.37
38 to 38.9 gravity	1.95	2.45
39 to 39.9 gravity	2.01	2.53
40 to 40.9 gravity	2.07	2.61
41 to 41.9 gravity	2.13	2.69
42 to 42.9 gravity	2.19	2.77
43 to 43.9 gravity	2.25	2.85
44 to 44.9 gravity	2.31	2.93
45 to 45.9 gravity	2.31	3.01
46 to 46.9 gravity	2.31	3.09
47 to 47.9 gravity	2.31	3.17
48 to 48.9 gravity	2.31	3.25
49 to 49.9 gravity	2.31	3.33
50 to 50.9 gravity	2.31	3.41
51 to 51.9 gravity	2.31	3.49
52 and above	2.31	3.57

Corsicana Heavy $1.25 per barrel, posted by Magnolia.

*Until further notice, Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes purchased by the Humble Oil and Refining Company, of a gravity lower than 28 degrees will be paid for with a corresponding decrease of eight (8) cents per barrel for each lower degree of gravity.

SOUTH TEXAS

Mirando (Texpata)	1.25
Mirando (Magnolia)	1.25

GULF COAST

Grade "A" all companies	1.60
Grade "B"	1.50
Gulf Coast Light Oil, Below 25	1.50
25 to 25.9	1.55
26 to 26.9	1.60
27 to 27.9	1.65
28 to 28.9	1.70
29 to 29.9	1.75
30 to 30.9	1.80
31 to 31.9	1.85
32 to 32.9	1.90
33 to 33.9	1.95
34 to 34.9	2.00
35 to 35.9	*2.05
36 to 36.9	2.10
37 to 37.9	2.15
38 to 38.9	2.20
39 to 39.9	2.25
40 and above	2.30

*Humble Oil and Refining Company's postings on Gulf Coast Light stop at 35 to 35.9. Its price on all crude above 35 is $2.05 per barrel.

LULING

Based on Contract	1.30

TEXAS PANHANDLE

Posted by Magnolia, Kay County Gas Company, Gulf and Plains Pipe Line Company, and Humble Oil and Refining Company.

28 to 28.9 gravity	$1.35
29 to 29.9 gravity	1.40

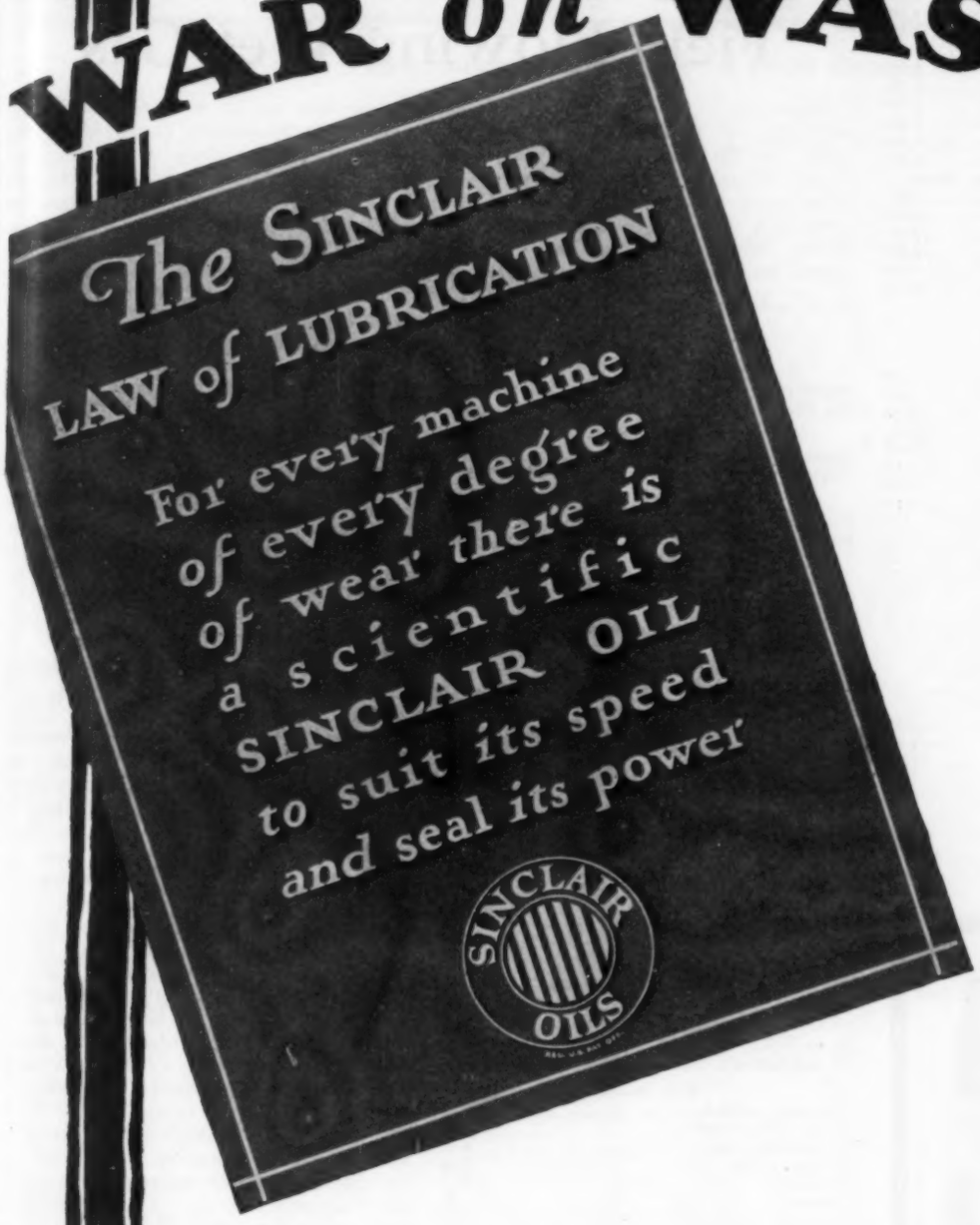
(Continued on page 48.)

California Crude Oil Prices at the Well

Following are the current prices offered by Standard Oil Company for crude oil at the well: (Price per barrel of 42 gallons in fields indicated)

Gravity (degrees)	Signal Hill	Huntington Beach	Inglewood	Olinda-Brea Canon	Rosecrans Dominguez	Torrance	Richfield	Whittier	La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall	Midway-Sunset Elk Hills	McKittrick	Hills	linga	rm River	Wheeler Ridge
14-14.9	$ .85	$ .85	$ .85	$ .85	$ ..	$ .85	$ .85	$ .85	$ .85	$ .85	$ .85	$ ..	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75	$ .75
15-15.9	.87	.87	.87	.87	..	.87	.87	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
16-16.9	.90	.90	.90	.90	..	.90	.90	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
17-17.9	.94	.94	.94	.94	..	.94	.94	.85	.85	.85	.85	..	.75	.75	.75	.75	.75	.75	.75
18-18.9	.98	.98	.98	.98	..	.98	.98	.86	.86	.86	.86	..	.75	.75	.75	.75	.75	.75	.75
19-19.9	1.04	1.04	1.04	1.04	..	1.04	1.04	.87	.87	.87	.87	..	.75	.75	.75	.75	.75	.75	.75
20-20.9	1.10	1.10	1.10	1.10	..	1.10	1.10	.89	.89	.89	.90	..	..	.82	..	.82	.79	..	.78
21-21.9	1.16	1.16	1.16	1.16	..	1.16	1.16	.91	.91	.91	.98	..	..	.90	..	.90	.86	..	.81
22-22.9	1.22	1.22	1.22	1.22	..	1.22	1.22	.94	.94	.94	1.06	..	..	1.00	..	1.00	.93	..	.85
23-23.9	1.28	1.28	1.28	1.28	..	1.28	1.28	..	..	.97	1.14	..	..	1.11	..	1.11	1.00	..	.89
24-24.9	1.34	1.34	1.34	1.34	1.34	1.34	1.34	..	..	1.01	1.22	1.02	..	1.22	..	1.22	1.07	..	.93
25-25.9	1.40	1.40	1.40	1.40	1.40	1.40	1.40	..	..	1.05	1.30	1.08	..	1.33	..	1.33	1.14	..	.97
26-26.9	1.46	1.46	1.46	1.46	1.46	1.46	1.46	..	..	1.09	1.38	1.16	..	1.44	..	1.44	1.21	..	1.01
27-27.9	1.52	1.52	1.52	1.52	1.52	1.52	1.52	..	..	1.13	1.46	1.24	..	1.55	..	1.55	1.28	..	1.05
28-28.9	1.58	1.58	1.58	1.58	1.58	1.58	1.58	..	..	1.17	1.54	1.32	..	1.66	..	1.66	1.35	..	..
29-29.9	1.64	1.64	..	1.64	1.64	..	1.64	..	..	1.21	1.62	1.40	..	1.77	..	1.77	1.42	..	..
30-30.9	1.70	1.70	..	1.70	1.70	..	1.70	..	..	1.25	1.70	1.48	..	1.88	..	1.88	1.49	..	..
31-31.9	1.76	1.76	..	..	1.76	..	..	..	..	..	..	1.60	..	1.99	..	1.99	1.56	..	..
32-32.9	1.84	1.84	..	..	1.84	..	..	..	..	..	..	1.72	..	2.10	..	2.10	1.63	..	..
33-33.9	..	..	..	..	1.92	..	..	..	..	..	..	1.84	..	2.21	..	2.21	1.70	..	..
34-34.9	..	..	..	.	2.00	..	..	..	..	..	..	1.96	..	..	..	2.32	1.77	..	..
35-35.9	..	..	..	..	2.08	..	..	..	..	..	..	2.08	..	..	..	..	1.84	..	..
36-36.9	..	..	..	..	2.16	..	..	..	..	..	..	2.16	..	..	..	..	..	..	..
37-37.9	..	..	..	..	2.24	..	..	..	..	..	..	2.24	..	..	..	..	..	..	..
38-38.9	..	..	..	..	2.34	..	..	..	..	..	..	2.31	..	..	..	..	..	..	..
39-39.9	..	..	..	..	2.44	..	..	..	..	..	..	2.44	..	..	..	..	..	..	..
40-40.9	..	..	..	..	2.54	..	..	..	..	..	..	..	..	..	..	..	..	..	..
41-41.9	..	..	..	..	2.64	..	..	..	..	..	..	..	..	..	..	..	..	..	..
42-42.9	..	..	..	..	2.74	..	..	..	..	..	..	.	..	..	..	..	..	..	..

WAR on WASTE!



THE motorist, in buying oil, is entitled to correct lubrication for his engine—and it is the dealer's responsibility to see that he gets it. Sinclair feels that responsibility—and therefore manufactures Opaline Motor Oil to sell according to the Sinclair Law of Lubrication—a different grade of Opaline Motor Oil "for every degree of wear" of the engine.

This means correct lubrication and economical transportation. It is the motorist's protection against *Waste of Power* and wearing of parts. This is the Sinclair dealer's method of making more satisfied customers.

SINCLAIR REFINING COMPANY
45 Nassau Street, New York
Atlanta Detroit Kansas City Chicago Houston Omaha

SINCLAIR OPALINE MOTOR OIL
REG. U. S. PAT. OFF.

1916-26—TEN YEARS OF MANUFACTURING AND DISTRIBUTING PETROLEUM PRODUCTS OF QUALITY

ENTIRE CONTENTS COPYRIGHTED, 1926, BY SINCLAIR REFINING CO.

Say you saw it in The OIL WEEKLY

	July 21 1926
30 to 30.9 gravity	1.45
31 to 31.9 gravity	1.50
32 to 32.9 gravity	1.55
33 to 33.9 gravity	1.60
34 to 34.9 gravity	1.65
35 to 35.9 gravity	1.70
36 to 36.9 gravity	1.75
37 to 37.9 gravity	1.80
38 to 38.9 gravity	1.85
39 and above	1.90
(Humble Oil and Refining Company Only)	
39 to 39.9 gravity	1.90
40 to 40.9 gravity	1.95
41 to 41.9 gravity	2.00
42 to 42.9 gravity	2.05
43 to 43.9 gravity	2.10
44 and above	2.15

WYOMING-MONTANA

Wyoming

Byron	2.25
Cerro	1.53
Elk Basin	2.40
Grass Creek	2.40
Rock Creek	2.40
Lost Soldier	1.10
Lance Creek	2.40
Mule Creek	1.75
Notches	.65
Big Muddy	2.25
Osage	2.15
Hamilton Dome	.73
Pilot Butte	1.75
Torchlight-Greybull	2.15
Lander	1.10

Salt Creek
(Midwest Refining Company)

29 to 29.9 gravity	1.73
30 to 30.9 gravity	1.81
31 to 31.9 gravity	1.89
32 to 32.9 gravity	1.97
33 to 33.9 gravity	2.05
34 to 34.9 gravity	2.13
35 to 35.9 gravity	2.21
36 to 36.9 gravity	2.29
37 to 37.9 gravity	2.37

Deep Test in Old Haynesville Field Flowing Wet Gas

Shreveport, La.—The deep test well drilled by W. R. Ramsey and others of Tulsa on the Gilliland Oil Company's Taylor "B" lease, in section 14-23-8 of the Haynesville field, was brought in last week with an initial flow of around five million cubic feet of wet gas per day from a total depth of 4332 feet. Six-inch casing was set at 4044 feet. Physical tests made by experts employed by two major companies show a gasoline content of 560 gallons per million cubic feet. After having been shut in for about an hour and a half, the well built up a pressure of 1260 pounds. It is making a very slight spray of salt water, which is thought to be from above the pay sand, logged at from 4328 to 4330 feet.

Louisiana oil operators have been engaged in a concentrated campaign of deep drilling throughout the last two years or more, and this is the third important success achieved during that period. The Dixie Oil Company discovered the first deep oil and gas production on the Pine Island structure, in Caddo Parish; and the Palmer Corporation found it at Cotton Valley. Other important tests are in progress at Shongaloo and Sarepta-Spring Hill, nearby, and further developments are expected within the next fortnight.

The Southern Crude Oil Purchasing Company (Standard of Indiana) is preparing to set the final string of casing at around 4300 feet in its Nunn-Wadley deep test, in section 1-22-10, on the Shongaloo structure, and Smitherman & McDonald of Shreveport are drilling in lime rock at around 4575 feet in their Oakley well, in section 29-23-11, near the old Lloyd Harris gas-oil-and-salt-water wells, near Spring Hill.

Even the wildcat tests are being drilled deeper than formerly, since the recent discoveries of deep production. The Triangle Drilling Company is drilling at around 4310 feet in its Keen wildcat, on what is known as the Sugar Creek structure, in section 7-19-5, Claiborne Parish. The Dixie Oil Company is preparing to drill out the plug, after having reset 6⅝-inch casing at 3815 feet in its Jenkins deep test, in section 9-12-11 of the De Soto-Red River district. The Ohio Oil Company is still drilling in its Cox well, in section 23-21-10 of the Cotton Valley field, now reported as around 6755 feet deep.

The Gulf Refining Company's Tyson deep test, in section 14-21-15 of the Pine Island field, was brought in last week as a large gasser from a total depth of 3819 feet. It is said to be making in excess of 40 million cubic feet of gas per day.

Woodley & Collins of Shreveport are drilling deeper at around 3115 feet after having overcome a gas blowout which occurred at a depth of 3110 feet in their L. & A. Oil Company wildcat, in section 14-23-12 of the northern part of Bossier Parish. The well is now showing salt water in considerable quantity.

The Ohio Oil Company is preparing to resume coring after having suffered a gas blowout at a depth of 1483 feet in its Edenborne wildcat, in section 4-12-1w, Winn Parish, about 15 miles northwest of the Urania field and about 12 miles northeast from the town of Winnfield.

Montana

	July 21 1926
Sunburst	1.05
Cat Creek	2.15

NEW MEXICO

Artesia	1.95
Hogback	1.95

CANADIAN CRUDE

Oil Springs	2.95
Petrolia	2.80

*Bounty on Canadian crude is ¾ cent per gallon, or 26¼ cents per barrel

LOUISIANA-ARKANSAS

Caddo

38 gravity and above	2.45
35 to 37.9 gravity	2.35
32 to 34.9 gravity	2.25
*Below 32 gravity	2.10

Homer

35 gravity and above	2.20
33 to 34.9 gravity	2.10
31 to 31.9 gravity	2.00
Below 31 gravity	1.85

Cotton Valley

All Grades	1.20

Haynesville

33 gravity and above	2.10
Below 33 gravity	2.00

Pine Island
(Posted by Magnolia)

Below 32	1.85
32 to 34.9	2.00
35 to 37.9	2.10
38 and above	2.20

Bull Bayou

38 gravity and above	2.25
35 to 37.9 gravity	2.10
32 to 34.9 gravity	1.95
De Soto crude	2.30
Crichton	2.10
Bellevue	1.50
Jennings	.50
Vinton	1.50
Edgerly crude	1.50
Urania	1.25

Smackover
(Standard, Gulf, Louisiana, Shreveport-El Dorado and Atlanta)

27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.35
Below 24 gravity	1.10

The Texas Company

27 and above	1.50
26 to 26.9 gravity	1.45
25 to 25.9 gravity	1.40
24 to 24.9 gravity	1.30
Below 24 gravity	1.10

El Dorado and Lisbon
(Atlantic)

37 and above at 60 degrees	2.30
35 to 36.9 gravity	2.20
33 to 34.9 gravity	2.10
Below 33 gravity	2.00
East Field (Calion)	.95

Stephens District

26 gravity and above	1.65
Below 26 gravity	1.45

*The Texas Company's posting on below 32 gravity is $1.85.

COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

Summarized Review of Field Results

State—	Completions This Week	Completions Last Week	Producers This Week	Producers Last Week	Gas Wells This Week	Gas Wells Last Week	Failures This Week	Failures Last Week	Initial Production This Week	Initial Production Last Week
Arkansas	18	44	17	33	..	..	1	11	1,040	2,130
California	23	15	23	14	..	..	..	1	7,651	13,060
Colorado	..	..	..	..	..	..	..	..	....	.....
Indiana	1	3	..	1	1	..	..	2	....	10
Illinois	7	6	4	3	1	..	2	3	45	50
Kansas	33	45	13	27	1	..	19	18	2,330	4,341
Kentucky	31	58	23	38	..	5	8	15	144	484
Louisiana	17	29	14	17	..	1	3	11	735	1,045
Michigan	..	..	..	..	..	..	..	..	....	.....
Mississippi	..	..	..	..	..	..	..	..	....	.....
Montana	3	8	2	7	1	..	..	1	35	840
Nebraska	..	..	..	..	..	..	..	..	....	.....
New York	10	8	9	8	..	..	1	..	26	33
New Mexico	..	..	..	..	..	..	..	..	....	.....
Ohio	50	57	38	31	4	9	8	17	1,006	512
Oklahoma	124	112	72	58	13	5	39	49	18,514	7,396
Pennsylvania	58	71	48	57	5	9	5	6	149	294
Tennessee	..	..	..	..	..	..	..	..	....	.....
Texas	183	172	103	109	3	9	77	54	39,932	46,095
Utah	..	..	..	..	..	..	..	..	....	.....
West Virginia	50	34	16	12	23	16	11	7	266	364
Wyoming	5	5	5	5	..	..	..	..	2,310	990
Totals	613	668	387	420	52	54	174	195	74,183	77,644

NOTE—Following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million cubic feet of gas; abn—abandoned; bbls—barrels; b. s.—basic sediment; cas—casing; co—cleaning out; dk—derrick; dr—drilling; fsh—fishing; ft—feet; in—inches; loc—location; m—milling N. S. E. W.—North, South, East, West; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr—straight reaming; std—standardizing; sw—salt water; td—total depth; ur—under reaming; wo—workover; wosr—waiting on standard rig.

Texas

GULF COAST

Company, Well and Location	Initial Production Bbls.	Depth
Spindletop—		
Rio Bravo Oil Co. No. 1, T. & N. O. right-of-way	3000	2800
Batson—		
Gulf Production Company No. 61 Choate	10	1175
Paraffine Oil Co. No. 66 Paraffine	9	1100
Sour Lake—		
Yount-Lee Oil Company No. 1 Lynn	3100	4100
Hull—		
Republic Production Co. No. 121 Dolbear	300	2700
Gulf Production Co. No. 19, Phoenix Dev. Co., (wo)	*	3650
South Liberty—		
Humble Oil and Ref. Co. No 2 Welder	2500	3890
West Columbia—		
The Texas Co. No. 4 Abrams (wo)	20	2800
Blue Ridge—		
Gulf Production Co. No. 3 Invincible Oil Co. (wo)	*	2800
Abercrombie et al No. 1. West-Schenck	1250	3280
Big Creek—		
Gulf Production Company No. 29, T. W. Davis	5000	4070
Orange—		
Gulf Production Co. No. 23 Lee Hager Fee	*	4625
No. 1 Hager & Moore (wo)	1640	3600
No. 4 Lee Hager Fee (wo)	300	3450
Rex Pet. Co. No. 4 Carbello (wo)	100	3380
Boling—		
Humble Oil and Ref. Co. No. 7 E. Hawes	*	3850
Oxford Oil Co. No. 3 Floyd (wo)	*	3630
The Texas Co. No. 1 Z. Felder	*	3440
No. 1 Floyd "B" (wo)	*	2525
Vacuum Oil Co. No. 1 Hooper	*	5300
D. Anderson No. 1 Davidek	*	600
Pierce Junction—		
Gulf Production Co. No. 11 E. R. Taylor et al (wo)	2200	3850

SOUTHWEST TEXAS

Company, Well and Location	Initial Production Bbls.	Depth
Bexar County—		
Helvetia Oil Co. Sarah Smith	50	....
Weimer	50	....
Jim Hogg County—		
Moody Oil Corporation No. 7 Palacios, Blk. 11, sur 291	350	....
Webb County—		
Crown-Central-Rydal Oil Co. No. 14, block 17	150	1740
Gibson Oil Corp. and J. E. Walsh No. 7 Bruni, blk. 13	1200	1740

SOUTH LOUISIANA

Company, Well and Location	Initial Production Bbls.	Depth
Evangeline—		
Jennings Pet. Co. No. 5 Heywood (wo)	20	1760
Gulf Ref. Co. of Louisiana No. 30, Jennings-Clement	20	1950

ARCHER COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Ashecraft et al's Star 1	*	2000
Brown & Co.'s Perkins 1	*	1029
L. T. Burns et al's DeMoss 1	*	1511
McCrory 1-F	*	1650
B. F. Caldwell & Consolidated Oil Co.'s Hutcheson 4	125	1389
J. S. Cosden & Consolidated Oil Co.'s Jehlik 3	*	1200
Davis et al's E. A. Hausler 1	*	1150
Dale Oil Corp.'s L. F. Wilson 5-F	*	1633
Kell-Kruger et al's Prideaux 3	20	697
Lewis Oil Corp.'s Prideaux 3	15	635
Jesse Lincoln et al's Wilson 2	*	1390
Long et al's Harris 1	*	1502
Murchison-Fain et al Dietrich 3	*	1215
Magnolia Pet. Co.'s Larkin-Miller 1	*	2305
Pandem Oil Corp.'s Thomas 3	80	1155
Hudson 1	18	1137
Simms Oil Co.'s Turbeville 2-A	250	1533
Texhoma O. & R. Co.'s Perkins 1	*	1500
Griffin 1	*	2003
Parrish 5-A	*	1600
United Producers Oil Co.'s Prideaux 3-A	15	704

BAYLOR COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Bridwell-Heydrick et al's Schindler 1	*	1529

BIG LAKE

Company, Well and Location	Initial Production Bbls.	Depth
Big Lake Oil Co.'s University 71	115	2930
University 5-B	120	2465

BROWN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Curry-Moore et al's Kilgore 2	†	390
Pickett 1-A	5	1165
Harris-Hayes Co.'s Armstrong 1	*	1500
Herring et al's Prather 3	*	1325
Humble O. & R. W. W. Allen 3	260	1161
E. P. & W. H. Kilgore 2-B	*	1170
E. P. & W. H. Kilgore 3-B	100	1182
E. P. & W. H. Kilgore 4-B	820	1174
Kilgore 2-C	100	1180
Kilgore 1-D	200	1159
Kilgore 2-D	†	475
J. C. Kilgore 2-B	500	1157
J. C. Kilgore 4-B	600	1176
Vanderburg Lester et al's Fry 1	100	1309
Pandem Oil Corp.'s Westerman 4	35	1274
Phillips Pet. Co.'s Dunn 6	25	1179
Dunn 7	*	1200
Prairie O. & G. Co.'s Pickett 1	25	1195
Schaffner-Wilson et al's Prather 11	50	1295
West & H-Y Oil Co.'s Newton 5	†	740
Wilson et al's Wooldridge 2	*	1300

BURKBURNETT

Company, Well and Location	Initial Production Bbls.	Depth
Craig-Wilson et al Karrenbrock 1	*	1405
O. C. Somers et al's Morgan 1	*	1502

CALLAHAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Denny & Andrews' Jackson 1	*	1810
Moutray Oil Co.'s James 1	25	708
Nichols & Brown & Co.'s Long 1	†	1405

CLAY COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Simms Oil Co.'s Waggoner 1	*	2003

COLEMAN COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Independent O. & G. Co.'s Dibrell 4	75	1882
Reeves-Meredith et al's Hall 1	*	2004

EASTLAND COUNTY

Company, Well and Location	Initial Production Bbls.	Depth
Corzelius Bros. et al's Garrett 1	*	3505

Company, Well and Location	Initial Production Bbls.	Depth
Evans et al's Fox 1	*	1880
Gulf Prod. Co.'s J. D. Parsons 1	105	1551
J. D. Parsons 2	¶2½	1231
J. D. Parsons 4-A	25	1561
Robert Oil Corp.'s Gullett 1	*	1702
The Texas Co.'s Noble 1	100	3307
ERATH COUNTY		
Goodwin et al's Laney 4	¶¼	2805
ELECTRA		
Ascot Oil Co.'s Burnett 5	*	490
Bullington-Lee & Pendleton's Jennings 4-B	*	1975
Gulf Prod. Co.'s S. B. Burnett 38-A	5	1776
Hereford Oil Co.'s Allingham 2-A.	25	1643
Humble O. & R. Co.'s Hines 2-B,	*	935
Ryan Pet. Co.'s G. E. Nance 73	50	520
G. E. Nance 74	45	1323
G. E. Nance 75	45	518
Texhoma O. & R. Co.'s Burnett 9-E	50	1580
United Producers Oil Co.'s Jennings 6-A	*	2004
GRAY COUNTY		
The Texas Co.'s G. H. Saunders 2	¶25	3184
HUTCHINSON COUNTY		
Walter Cline & Douglas Oil Co.'s J. A. Whittenburg 1	50	3093
Dixon Creek Oil Co.'s Smith 6	500	2950
S. D. & W. W. McElroy's Smith 3.	900	3017
McMann Oil & Gas Co.'s Smith 5.	2000	2761
J. H. Middleton et al Smith 1	15	2965
Smith 2	15	2940
J. R. Phillips & Heywood's Smith 1	500	3010
Phillips Pet. Co.'s Whittenburg-Huff 1	1000	2900
Whittenburg-Huff 3	150	2923
Whittenburg-Coble 4	1000	2960
Whittenburg-Coble 7	250	2992
Prairie O. & G. Co.'s M. Weatherly 2	100	3123
White Eagle O. & R. Co.'s J. A. Whittenburg 2	50	2780
JACK COUNTY		
Howard et al's Stewart 2	*	510
McGregor et al's Hedrick 1	*	607
Ryan et al's Loving 1	*	803
Wellman et al's Patton 1	*	868
Wolf Oil Corp.'s Wilson 1	*	1865
K-M-A AND IOWA PARK		
Omohundro et al's Chilson 1, lot 3	*	785
MONTAGUE COUNTY		
F-H-E Oil Co.'s N. J. Howard 2-A	35	1157
Humble O. & R. Co.'s R. Hinds 10	50	943
Pure Oil Co.'s J. W. Maddox 1-C	65	902
The Texas Co.'s I. A. Gist 12-A	75	918
Oldham 9	140	1149
Texhoma O. & R. Co.'s R. Hinds 9	35	968
N. J. Howard 5-A	55	1149
J. W. Rowland 2	75	1052
PALO PINTO COUNTY		
Moore & Snebold's Robinson 2	20	1525
SHACKELFORD COUNTY		
J. S. Cosden & Hope Pet. Co.'s Davis 2	260	1471
Hughes et al's Diller Bros. 1	*	1425
Milham Corp. Sedwick 1	80	3570
Robert Oil Corp.'s Davis 1	*	1618
Roeser-Pendleton, Inc.'s W. I. Cook 2-B, sec 84,	100	1355
W. I. Cook 3-B, sec 84	700	1351
W. I. Cook 11-B, sec 85	2000	1222
Roeser-Pendleton & Marland Oil Co.'s Cook 1-A, sec 81	*	1300
Tannehill Oil Co.'s Moberly 16	*	1300
SOUTH VERNON DISTRICT		
Humble O. & R. Co.'s W. T. Waggoner 2-K	20	2344
W. T. Waggoner 12-M	65	1872
W. T. Waggoner 4-N	65	2338
Milham Corp.'s W. T. Waggoner 4-B	45	2554
Phillips Pet. Co.'s W. T. Waggoner 1-R	300	1888
W. T. Waggoner 5-T	500	1885
STEPHENS COUNTY		
Hickok Producing Co.'s Parks 2	¶1-5	3134
THROCKMORTON COUNTY		
Associated Pet. Co.'s Reynolds 3	*	950
Humble O. & R. Co.'s Ledbetter 2	*	890
Red Bank Oil Co.'s Donnell 1	¶4	827
YOUNG COUNTY		
Biljobul Oil Co.'s Stewart 1	*	705
Camp Oil & Gas Co.'s Sanders 1	*	1002
Roy I. Carter et al's Benson 14	15	948
Chenault et al's Rachuig 5	80	1164
Rachuig 6	400	1174
W. B. Hamilton-Martin et al's Whitehead 3.	*	1175
Ilseng Prod. Co.'s Speer 1	*	700
Long et al's Wilson 1	*	1010
Magnolia Pet. Co.'s I. C. Little 4	40	1287
Pandem Oil Corp.'s Whitehead 2	50	875
Whitehead 3	*	902
Reed-Wooten et al's Drum 1	*	700
Robert Oil Corp.'s E. Rogers 6	35	869
Tidal Oil Co. et al's Benson 1-B	20	942

Temperature of Exhaust Indicates Efficiency of Diesel Engines

(Continued from Page 28)

sures are high. This is true for all speeds and loads.

If high exhaust gas temperatures are being caused by a low spray pressure, an increase in the pressure of the spray will, of course, tend to make the engine respond with a material increase in power. This is a matter of common observation.

Maximum power is developed by the engine when perfect combustion of the oil fuel takes place in the cylinders. Of the several factors which influence the combustion of the oil in the cylinders, the spray air pressure is probably the greatest and most variable.

A low spray air pressure cuts down the gross injection of the oil, the result being a slow or partial combustion on the power stroke. The combustion, then, because it is incompleted on the forward stroke will continue during the exhaust stroke and burning oil will be ejected through the exhaust port.

This condition may or may not be apparent, because the black smoke may or may not show at the muffler, depending on whether or not the combustion is completed in the exhaust header before it reaches the muffler.

In any event, the exhaust gas temperature will be more or less high when the condition is present. It is evident, therefore, that with temperature indicating instruments making readings at the exhaust passages the temperature of the gases can be definitely determined and the correct pressure, as it influences the temperature, secured.

Maintaining Balanced Load

If the temperature of one cylinder registers higher than the temperatures of the other cylinders, it is likely to be because that cylinder is receiving too much fuel, and consequently is overloaded by the over supply. The trouble in most cases of this instance is, of course, due to an improperly adjusted fuel valve.

On the other hand, if one cylinder shows a lower temperature than the others it is probably due to the fact that it is receiving less than its share of the fuel. Common contributing factors to this condition are a restricted fuel line, a leaky pump or an improper valve adjustment.

There are many other factors and conditions which might cause the differences in cylinder temperatures that fall under the two broad classes of improper engine operation and defective mechanism. No attempt will be made to mention all of them, and the ones given here are intended only to suggest others, many of which will be no less important.

Defects in pistons, valves and other parts, which cause low compression tend to decrease exhaust temperatures, and, other things being equal, cylinders with equal compressions will show equal temperatures.

An excessive supply of cold circulating water, or water leaks into the inside of the cylinder will tend to reduce exhaust temperatures more or less materially.

Preignition, sometimes caused by too much lubricating oil being used, will register a higher temperature on that cylinder in which it occurs. The same temperature effect will be produced by piston cooling oil leaking into the cylinder from a cracked piston head.

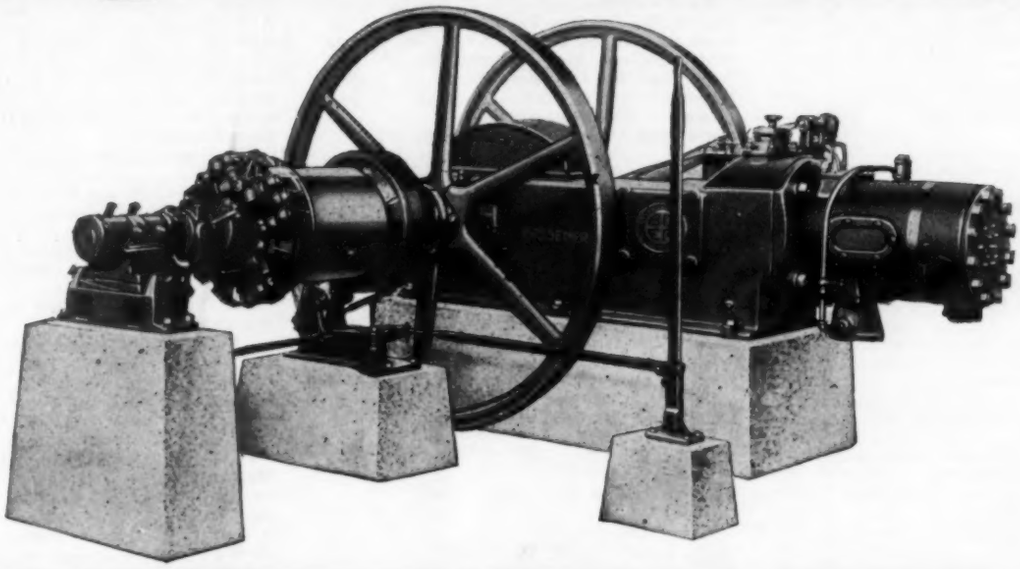
In several cases that have been observed, it has been found that when higher temperatures were being caused by afterburning, the temperature was not materially reduced when the contributing causes had been corrected. In that case, a secondary condition has probably been set up which continues to keep the temperature high, and that is a restriction of the exhaust passage due to the presence of the products of the aftercombustion.

Restricted exhaust passages tend to increase the temperature as shown by the instruments, due to the fact that the movement of the exhaust gases out of the system is retarded.

Output Exaggerated

Casper, Wyo.—Recent reports that the Producers & Refiners Corporation had completed a 500 barrel well in the Hudson (Wyoming) field seem to have been slightly exaggerated, although the well is unmistakably a commercial producer, rated at close to 200 barrels daily. The producing sand was tapped at 1775 feet and has been partially identified as the Tensleep, although it may be a shallower formation.

Improvement



after Improvement

—and they're ALL combined in the New Bessemer Oil Field Engine

THERE are more improvements and refinements in the New Bessemer Oil Field Engine than in all other oil field engines put together. All of the features of the larger, finer Bessemers have now been incorporated in this New Oil Field Engine. Points of construction never before possible except in larger, more costly power plants have been built into these husky, inexpensive engines for Oil Country service.

Each individual feature is in itself a sound reason for buying the New Bessemer. The combination of *all* of these features makes it an Oil Field engine without even a close second.

Some of the outstanding features of the new Bessemer Oil Field Engine

- Entirely enclosed bed plate.
- Force feed lubrication operating from same eccentric as ignition.
- Air valve on top of bed plate.
- Efficient Bessemer governor.
- Cleanout type cylinder head. Entire front of cylinder head removable, exposing water jacket.
- Jump spark ignition.
- Easy to clean water jacket. An easily removed plate on either side of cylinder permits quick access to water jacket space.
- 6 inch exhaust on 30 H. P. and 35 H. P. engines.
- Outside bolting-cylinder readily removed.
- Bored crosshead with adjustable shoes.
- Large, quickly removed side plates give easy access to adjustable crosshead.
- Splash lubrication to crank, crosshead and main bearings.
- Counterweight on crankshaft, giving perfect balance on crank.
- Adjustable and removable main bearings.

THE BESSEMER GAS ENGINE COMPANY
62 York Street ∴ ∴ Grove City, Pa.

California Distributors: Associated Supply Company, San Francisco—Los Angeles
California Branch: 727-728 Standard Oil Bldg., Los Angeles

BESSEMER

BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Say you saw it in The OIL WEEKLY

Eastern States

PENNSYLVANIA

Company, Well and Location	Initial Production Bbls.	Depth
Bradford Field—		
South Penn Oil Co. Fee 41	3	....
Bingham 439, tract 98	3	....
Bingham 494, tract 5	4	....
Bingham 553, tract 82	2	....
Bingham 154, tract 29	3	....
Jones 3	4	....
Jones 4	5	....
Petroleum Reclamation Co. Mott 12	4	....
Mott 13	4	....
Pratt 15	2	....
Pratt 16	3	....
T. H. Kennedy, Kennedy 6	3	....
Kennedy 7	3	....
T. P. Thompson Borden 2	2	....
Zook & Sloan, Keating 1	4	....
Keating 2	4	....
DeVore & Potter, Russell 1	4	....
W. J. Fredericks, Shenfield 1	5	....
M. B. O. Oil Co. Duke 3	2	....
Duke 4	5	....
Piper & Lloyd, Ekas 12	2	....
Ekas 13	3	....
J. L. Yerden, Bingham 1	2	....
Bingham 2	3	....
W. E. Parmenter & Co. Parmenter 31	3	....
Gridiron Oil Co. Duke 15	4	....
Wiborg & Co. Medrim 1	4	....
Medrim 2	4	....
C. B. Kervin, Baldwin 1	4	....
Forest Oil Co. Baldwin 2	5	....
Porter 2	5	....
W. J. Healey & Co. Healey 1	3	....
Kamp Estate, Bingham 1	4	....
Clarion County—		
United Natural Gas Co. Kapp 2	¶1¼	....
H. W. Wilson, Kapp 1	¶1	....
Alum Rock Gas Co. Knox 3	*	....
S. R. Lewis Interests, Reichner 1	¶1	....
Kribbs, Wentling & Co. Kribbs 33	*	....
Center-Middle Field—		
Launer & Co. Lot 49, tract 1	2	....
Kapp & Brockelhurst, Merkle 38	2	....
Merkle 39	2	....
Butler County—		
Frederick & Co. Rudert 1	¶1½	....
Denney & Co. Denney 1	*	....
Berry & Co. Donaldson 1	2	....
Hovis & Co. McKinney 5	3	....
Stewart & Co. Stewart 1	5	....
Lefever & Co. Bruner & Co. 1	*	....
Greene County—		
Carnegie Natural Gas Co. E. McClelland 1	¶2½	....
Venango County—		
Oil Well Supply Co. Crawford & Co. 111	*	....
E. E. Grimm & Co. Highfield 11	2	....
Midland Oil Co. McNellie 13	2	....
McNellie 14	2	....
McNellie 15	2	....
McNellie 16	2	....
McNellie 17	2	....
J. Sheasley, Rice 6	2	....
O'Brien & Nickle, Kapp & Co. 3	2	....
Price, Pyle & Co. Fee 65	2	....

NEW YORK

Company, Well and Location	Initial Production Bbls.	Depth
Allegany County—		
C. W. Mead, Mead 1	3	....
C. M. Barnes & Co. Barnes 1	3	....
Martin Bros. & Co. Sawyer & Co. 1	5	....
Hazlewood Oil Co. Hazlewood 1	3	....
Dusenbury & Co. Taylor 1	3	....
Weller & Co. Kinley 1	2	....
Wilbart & Co. McDermott 1	3	....
Howard & Phillips, Howard 1	*	....
Vossler & Co. Burdick 1	2	....
E. J. Phillips & Co. McDivitt 1	2	....

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
Ritchie County—		
Pittsburgh & West Va. Gas Co. J. B. Markle 1	¶¼	....
W. R. Hays, Lem Wilson 1	¶1½	....
South Penn Oil Co., Clyde Atkinson 6	65	....
Meadow Run Oil Co. Bowie heirs 5	60	....
R. C. Jackson & Co. Loomas heirs 2	¶1½	....
Ira Williams & Co. West Va. tract 32	*	....
Rawe & Bros. John Adams 4	¶1	....
Clay County—		
Boggs & Hall, N. F. Jarvis 1	*	....
Ohio Fuel Oil Co. Castro 11	15	....
Virginian Gasoline & Oil Co. Brown, Swan Co. 8	25	....
Ohio Fuel Oil Co. Castro 10	40	....
South Penn Oil Co. O. D. Stockley 23	25	....
Wood County—		
Four S. Oil Co. Ora Bartimus 1	2	....
Smith & Goldfish, Goldsmith 3	*	....
D. E. McClure, Rose Northern 2	*	....
White Sand Oil Co. John Rost 3	5	....
Henderson Oil Co. Drain heirs 11	2	....
Lincoln County—		
South Penn Oil Co. Columbus Griffith 3	4	....
Columbus Griffith 4	4	....
Ephriam Griffith 3	8	....
Maebron & Huffman, C. Gillenwater 1	¶1½	....
L. R. Sweetland & Co. Sweetland 7	¶1¼	....
Roane County—		
United Fuel Gas Co. H. D. Garrett 1	¶2	....
Mary A. Taylor 1	¶2	....
L. D. Osborne 1	¶2	....
Green Creek Oil & Gas Co. Ruby Dixon 1	¶3	....
Ohio Fuel Oil Co. J. B. Seaman 1	¶2	....
Kanawha County—		
United Fuel Gas Co. Lewis Woods 1	*	....
Robertson-Taylor 1	¶1	....
M. A. Cobb 1	¶3½	....
S. P. Young 1	¶¼	....
Fumdenberger & Co. Lude P. Herman 1	*	....
Wetzel County—		
Johns Gas Co. B. W. Peterson 1	5	....
Hope Construction & Refg. Co. Alonzo Jackson 1	2	....
F. E. Miller 1	*	....
Putnam County—		
Kirtley & Keller, W. H. Pierce 1	*	....
Jennie Jones 1	¶1½	....
Holt, Brice & McComas, Wm. Lee 1	¶2¼	....
Pleasants County—		
Riggs & Newell, George Varner 16	2	....
George D. Stout & Co. G. D. Stout 1	2	....
Doddridge County—		
Carnegie Natural Gas Co. A. O. Sutton 1	¶1¼	....
Nay & Kintzer, Radabaugh Fucey 2	¶1	....
Boone County—		
Owens Bottle Machine Co. T. W. Bedford 11	¶2	....
Godfrey L. Cabot, Sherman 16	*	3310
Cabell County—		
Lewis Sweetland & Co. Robert Collins 1	¶¼	....
Nicholas County—		
Hamilton O. & G. Co. Craig Heirs 6	¶3½	....
Harrison County—		
Reserve Gas Co. J. D. Reynolds 1	¶2	....
Marshall County—		
Hicks Oil & Gas Co. Alfred Howard 1	¶2¼	....
Lewis County—		
Hope Natural Gas Co. R. V. Malloy 1	*	....
Gilmer County—		
C. W. McCall & Co. W. W. Wright 2	*	....

KENTUCKY

Company, Well and Location	Initial Production Bbls.	Depth
Lawrence-Johnson Counties—		
Swiss Oil Corp. George Evans 18	5	....
George Evans 19	4	....
P. P. Holbrook 43	10	....
C. K. Dobyne 20	5	....
Caney Sparks 11	5	....
Johnson-Magoffin Counties—		
Wilson Oil Co. Kelley Owens 4	5	....
Estill County—		
Wood Oil Co. William Meil 9	12	....
Superior Oil Corp. S. Horn 9	10	....
S. Horn 10	10	....
Lee-Owsley Counties—		
Combs Bros. Dev. Co. Jack Evans 3	5	....
Barren County—		
Star Oil Co. Richardson 2	3	....
L. J. Emery Sons Co. Martin 3	*	....
Jacob Best Trustee, Sanders 5	5	....
R. B. Tyler, White 8	3	405
J. W. Porter, McGochlin 18	3	....
Heuchins Leasehold Co. Mayfield 4	5	....
Hiland Oil & Gas Co. M. D. Beals 1	*	....
Warren County—		
Petroleum Exploration Co. N. L. Miller 1	*	1416
F. F. Blanchard, C. Daugherty 1	*	1335
Owensboro District—		
White Plains Oil & Gas Co. J. J. Midkiff 4	10	....
J. B. Ellis 2	10	....
Leeper Oil Co. J. S. Collier 1	10	....
J. W. Lowman Atty., J. B. Ellis 3	15	....
Penn-Indiana Oil Syndicate W. Griffith 2	*	....
Chicago Pet. Synd. Gunther-Gant 7	*	....
Allen County—		
W. G. Moorman, Receiver, J. W. Frost 12	2	364
Sam Bradshaw, Phoebe Oliver 14	2	292
Helka Dev. Co., E. Sanders 9	2	400
F. J. Tapp, Ike Hill 1	3	474
M. S. H. Oil Co. Earl Oliver 2	*	370
Mealey & Mealey, M. J. Lewis 19	*	356

SOUTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Washington County—		
First Nat. Bank of Marietta W. G. Jackson 12	*	....
Heldman Oil Co. Heldman 1	*	....
Beeson & Athey, Hupp-Murray 11	2	500
Citizens Nat. Bank of Caldwell, A. J. Longfellow 3	2	....
Roller Oil Co. Charles Rister 2	2	....
Morgan County—		
Ohio Fuel Supply Co. Matilda Eppley 3	10	....
The Pure Oil Co. Isaac Smith 8	5	....
G. W. Fry 1	10	....
Columbiana County—		
R. C. Miller, R. and E. George 3	2	....

CENTRAL OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Licking County—		
The Pure Oil Co. Brown heirs 1	50	....
Midland Oil Co. Violet Bogle 2	*	....
A. D. Cooperider 3	*	....
Moore & Co. A. W. Hartman 1	*	....
L. A. Patton & Co. McCormick 3	3	....
Ohio Fuel Supply Co. Ellen E. Forry 1	3	....
Ellen E. Forry 2	2	....
Moore & Adams, Parker Wolfe 3	3	..
Sterl C. Brown & Co. F. E. Baughman 1	12	....
Leonard Oil & Gas Co. William Varner 1	¶2	....
Spindler & Donaldson, W. S. Rogers 2	14	....
Detex Oil & Gas Co. Otto Franks 7	5	....
Hocking County—		
Fellowship Oil & Gas Co. T. J. Mowery 1	325	....
Ohio Fuel Supply Co. Charles Trimmer 5	20	....
Griffin Producing Co. Barlow Oil & Gas 4	¶2	....
Dora Thomas 7	*	....
Holmes County—		
Empire Gas & Fuel Co. D. Nethrow 2	175	....
East Ohio Gas Co. Sanford Carpenter 1	*	....
George Moritz 4	3	....
Leonard Oil & Gas Co. Byron Middaugh 1	¶2	....
Knox County—		
Margaret Oil Co. C. P. Davidson 6	5	....
Perry County—		
Chartiers Oil Co. Hocking Products Co. 198	5	....
Medina County—		
H. A. Dempsey, D. Ross 38	10	440
Meigs County—		
The Pure Oil Co. Yost heirs 4	10	....
Athens County—		
Coke & Co. Peter Walsh 1	2	....
Guernsey County—		
Ohio Fuel Gas Co. James Mercer 3	¶1½	....

NORTHWESTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
Hancock County—		
B. Porter & Co. J. H. Haley 23	40	1391
R. T. Rittenhouse, Frank Freed 4	20	1389
Ridge Oil & Gas Synd. L. Wonders 1	18	1439
Shelby County—		
The Ohio Oil Co. Theresa Goffena 2	25	1346
Wittmer Property Trustee, Joe		

Company, Well and Location	Initial Production Bbls.	Depth
Siegel 5 . .	5	....
Lee A. Watson, Jennie Monnin 3 . .	5	1298
Allen County—		
Charles Geselchen & Co. Wm. Lenney 6 .	60	1364
Mack P. Holt & Co. John Lucius 3	35	1251
Hardin County—		
Boston-Southwestern O. & G. Co. Ira C. Schick 1 .	50	1453
Cockley Oil Co. Cockley-Gilmore 2	15	1443
Auglaize County—		
Crystal Oil Co. Joseph Woehrmeyer 4	10	1275
Tester & Co. J. Harrod 1	*	1384
Wood County—		
Oko Oil & Gas Co. J. Heilman 1	25	1283
Mercer County—		
S. M. Tate, Jr., Rose Fecher 4	10	1275
Sandusky County—		
W. C. Richards & Co. A. E. Waggoner 3 . .	5	1331

INDIANA

Sullivan County—		
Fred Bays, Sarah Vaughn 1	¶¼	575

ILLINOIS

Wabash County—		
W. C. McBride Inc. Jennie Cisil 2	30	1580
W. M. Bell & Co. H. C. Yelton 2	*	1573
Crawford County—		
Selby-Cisler Producing Co. Claudie A. Reavill 48 . .	8	942
J. S. McNally & Co. Harry E. Ottey 1 . .	¶¼	1054
Lawrence County—		
The Ohio Oil Co. J. W. Clark 13 ..	5	960
Clark County—		
Adkins & Co. W. R. Shuey 2	2	527
Marion County—		
Petro Oil & Gas Co. A. W. Webster 9 . .	*	790

Oklahoma

Carter County—		
Magnolia Pet. Co. Bumpass 2, SEc NE SE 33-1-3	¶15	1982
Humble Oil & Ref. Co. Lusk 4, SEc NE 33-1-3 . .	140	3177
F. W. Merrick et al, Noble 3, NWc NE NE 27-2-2	25	1277
Merrick-Cameron Moyer 1, NWc SE NE 8-3-2 . .	60	2766
Schermerhorn et al, Sikes 1, SEc NW NW 34-1-3 . .	*	3510
Creek County—		
Burlengane and Sharp, Peters 4, SWc NW 13-19-8 . .	110	2877
Gem Oil Co. T. Atkins 25, C NW NW 4-18-7 . .	100	2607
Magnolia Pet. Co. Vance 16, NE NW SE SE 6-18-7, owd	50	2570
Shaffer O. and R. Co. Britton 7, SW NE NE SW 6-18-7 . .	15	2480
Magnolia Pet. Co. Derrisaw 8, C WH SW SE 32-18-7, owd	30	2737
O. H. Chapman et al Sarhilla 1, NW SW SW NW 26-17-8	200	3205
Peters Pet. Co. Arsoyallee 3, NE SE NE 21-16-8 . .	¶6½	3168
Wilcox O. & G. Co. Harjo 5, NWc NE NW 2-15-8, owd	65	3659
Lima O. & G., Halloway 1, SEc SW SW 19-15-8 . .	¶21	3310
Gypsy Oil Co. Pomds 8, NEc SE SE 2-14-8 . .	25	2512
C. G. Tibbens Farha 2, SWc SE NE 13-14-8 . .	20	2376
Crude Oil Dev. Co. Unallotted 1, NEc NW SW 12-18-11	10	1410
E. L. Kistler et al, A. C. Land 1-A C SE SW 12-18-11	10	1673
Sunray Oil Co. et al, Sango 6, NEc SW SE NW 6-18-12 . .	35	1980
Pioneer Pet. Co. Bucktrot 5, NWc SW NE 24-17-10, owd	840	2447
Pioneer Pet. Co. Bucktrot 6, NWc SW SW NE 24-17-10 . .	2040	2462
Atlantic Oil Producing Co. Bear 1, SEc NE NW 16-14-10 .	600	3242
The Prairie Oil and Gas, Elsa R. Slef 7, "A" SE NW SW 22-17-9 ..	25	2510
Creek County—		
B-Jack Oil Co. Bucktrot 1, NWc SW SE 34-17-10 . .	*	2990
Stebbens Oil and Gas Co. Lucas 1, C S L SE SW 17-14-9	*	2974
Garfield County—		
Mid-Continent Pet. Corp. and Marland Oil Co., School land 65, SWc NE SE 13-22-4 . .	70	3063
School land 67, NEc SE 13-22-4	250	3612
School land 70, NE SE SE 13-22-4	422	3058
Sinclair Oil and Gas Co., Walker 23, (N) SEc NE 13-22-4 . .	1610	3650
Walker 47, (N) SWc NE NE 13-22-4 . .	890	3696
Walker 48, (N) NWc SE NE 13-22-4 . .	313	3109
Roxana Pet. Corp. Schroeder 4-L, SW NW SW 18-22-3 . .	488	3232
Sinclair O. & G. Co., Hartley 38, SE SW NW 18-22-3 . .	445	3635
Hartley 41, SWc SE NW 18-22-3	120	3107
Garvin County—		
Magnolia Pet. Co., Harris 8, SEc NE SW 16-1-3 . .	10	1295
The Texas Co. Derdeyn 2-B, NW NE SE 17-1-3 . .	40	1625
Hughes County—		
Mid-Continent Pet. Corp., Alexander 9, SW NW NW 3-9-9	150	3800
Amerada Pet. Corp., Frederick 7, SW NE SW 5-7-8 . .	1213	4160
Kay County—		
Comar Oil Co. Lawrence 3, NE SE NW 5-28-1, 2125 in 24H,	1457	2385
Arkansas Fuel Oil Co. Kelly 5, SWc SE SE 4-27-1 . .	200	3437
Blackwell Oil and Gas Co., Moore 1, NEc SW 8-27-1 . .	237	3490
Harris and Hahn Brown 4, C NW SW 9-27-1 . .	¶36	3462
Ostot, Hoag and McCam Patterson 1, SWc NE kO-27-1	¶2	1490
Pennok Oil Co. Ebdicott 2, NWc SW SE SE 34-25-1 . .	*	2645
Lincoln County—		
The Prairie Oil and Gas Co. Sporlerder 2, SW NW SW 35-15-5..	50	3394
Magnolia Pet. Co., Chapman 2, NEc NW SE 10-14-5 . .	115	3440
Ruvy et al, Cull 1, NEc NW 36-15-4 . .	*	4721
Muskogee County—		
J. M. Foltz Taylor 5, NWc SE SE 28-15-17 . .	¶¾	1416
King and King, Smith 6, C N L NW SW 14-15-15 . .	*	1446
C. M. Bradley et al, Goodrich 3, SWc NW SW 5-14-19 . .	*	1037
Clay Brown and W. D. Shedden, Neal 1, SW SE SE 27-13-19 . . .	*	1078
Nowata County—		
The Prairie O. & G. Campbell 26, NEc SE NW SW 31-25-17	60	482
Okfuskee County—		
Josey Oil Co. McCoy 11, NEc SW NW 33-12-11 (twin)	100	2886
Champlin Ref. Co., Jefferson 2, SEc SW NW 23-11-11 . .	¶7	2073
Okmulgee County—		
C. E. Campbell, Blair 1-A, C W L NW SW 24-15-12 . .	50	2611
Barbara Oil Co. Ostran 4, SW NE NW 35-15-12	¶11	1861
Denver Producing and Ref. Corp., Thomas 7, C N L SW NE 32-13-11	¶25	3130
R. C. Vincent, Andrews 1, SWc SE NE 3-15-14 . .	35	1523
The Texas Co., Garnett 12, NWc SE 21-15-14 (T-3)	538	2294
John Aggas, Love 4, NWc NE NE 16-14-14 . .	15	1041
Simms Oil Co., Doyle 16, C NE SW 15-13-14 (Twin)	40	1971
Iron Mountain Oil Co., Thornsberry 11, SWc SE NW 24-13-14	50	1958
Jackson and Wise, Grayson 4, C SW SW 2-15-11 . .	*	2338
Carter Oil Co. et al, Fortyfour 2, NWc SE 9-15-12 . .	*	3045
Ted Savoie Blair 2, SWc NE SW 24-15-12 . .	*	2653
Humble O. & R. Co., Althanen 1, SEc SW NE 4-15-13 . .	*	2569
Thompson and Black Phillips 1, SEc NW 19-15-13 . .	*	2766
Future Dev. Co., Deere 6, NWc SE SE 2-15-14 . .	*	2165
J. L. Selby Osborn 2-A, SWc NE SE 21-15-14 (Twin)	*	2195
F. D. Misener et al, Colbert 10, C S L SW SW SW 16-14-14	*	1730
Osage County—		
A. D. Simon 1, SWc SE SE SE 25-29-11 . .	5	1014
Osage Gas Producing Co. 367, SEc 8-27-11 . .	¶3½	726
Carter Oil Co. 17, C NW 16-26-6..	*	....
Phillips Pet. Co. 4, SEc SW 21-26-6	525	2941
No. 12, SE NE SW 21-26-6	500	2943
Continent Oil Co. and Prairie Oil & Gas Co. 2, NWc SE NE SW 33-24-9 . .	15	2186
Pure Oil Co. 148, NWc SE SW NE 5-23-8 . .	10	1212
No. 171, SEc NE SW SW 9-23-8	500	2594
Tidal Osage Oil Co. 18, SWc NE SW 34-22-10 . .	20	1233
Skelly and Moore 8, SW NW NE 2-21-8 . .	15	2398
J. G. Glenn 1, NWc 33-21-9	5	1283
Oklahoma Natural Gas Co. 713, NW SE SW 17-21-11 . .	¶2¼	1770
Tidal Oil Co. et al 7, C W L E H SW 15-21-12 . .	22	1342
Tidal Oil Co. 2, C S L NW 22-21-12	15	1290
Gillespie and Sons 5, NW SE NE 5-20-12 . .	28	1390
Osage County—		
Phillip Pet. Co. 2, SE SW NE 2-27-5 . .	*	3012
J. H. Winemiller 4, NEc SW NW SW 20-22-10 . .	*	2020
Bradford Tank Co., 3, SE NE SW 23-22-10 . .	*	2005
Echo Oil Co. 1, C N L NW 35-20-11 . .	*	2565
Pawnee County—		
Minnehoma Oil Co. McIntyre 5, SWc SE SW 13-21-7 . .	15	2695
McIntyre 7, NEc NW NW 24-21-7 . .	75	2558
J. G. Grieves Anglin 6, C S L SE NW 31-21-8 . .	10	2607
Producer Consolidated Oil Co. Georfe 1-A SEc SW 6-20-8 . .	25	2230
Black et al, Cotton 1-A, NWc SE NE 6-20-8, owd	175	2614
Selby Oil and Gas Co. Dunn 1, NWc NE SE 10-20-8, owd	2	1446
Selby Oil and Gas Co. Van Eman 6, SWc NE SE 23-20-8 . .	35	2730
Magnolia Pet. Co. School land 1, SWc 13-23-4 . .	*	4050
A. D. Krow 1, NWc SE 4-23-5..	*	4010
Turner et al, Carter 1, SWc 23-21-7	*	3106
Prairie Oil & Gas Co. Alice Yeager 1, NEc 23-20-7 . .	*	2862
Shoetgrass et al Turner 1, SWc NW NW 18-20-8	*	3108
J. H. Markham, Jr., Delp 1, NEc 16-20-9 . .	*	2803
Suppees et al Richards 1, NWc NE NW 23-20-9 . .	*	2600
Payne County—		
Deep Rock Oil and Gas Co. Barth 4, NWc NE 26-18-3 . .	120	4281
T. M. C. Oil Co. Waltman 1, NEc NW 26-18-3, owd	350	4243
Superior Oil Co. Parmela 1, SEc SW SE 31-18-4 . .	¶16½	3657
Prairie Oil and Gas Co. Erwin 2, NE SE SE 14-19-4 . .	*	3778
A. A. Bailey and Sunperior Oil Co. Barry 1, NEc SW 11-19-6	*	3402
Mulberry Oil Co. Berry 1, SEc NE 22-18-3 . .	*	4353
J. A. Hull Nelson 2, SEc 22-18-3 ..	*	4340
Deep Rock Oil and Gas Co. Derry 5, SEc NW SE 23-18-3	*	4540
Seminole County—		
Gypsy Oil Co. Williams 1m, SEc SW SW 28-11-8	20	3461
Gypsy Oil Co. Williams 3, NWc NE NW 5-10-8	5	3478
Indian Territory Illuminating Oil Co. Reed 8, SEc NE 24-9-6.....	48	4012
Independent Oil and Gas Co. Harvis and Holm Cobb 2 SEc NE 7-9-8.	190	3299
Magnolia Pet. Corp. Skinner 6, NWc SW NW 5-7-8	1524	4172
Tulsa County—		
Riverland Oil Co. Andersin 1-A NEc SW NW 34-19-11	892	2308
T. Green et al, Flippen 1-A, NWc SW SE 28-18-14	*	1535
Wagoner County—		
Schlingman (Trustee) White 4, SEc		

Company, Well and Location	Initial Production Bbls.	Depth
SW SW NE 25-17-16	¶1	652
Bryan and Emery Glover 1, SWc SE NW 26-17-16	¶3	747
G. E. Hawks Childers 1, SEc 10-18-16	*	1228
Cartwright et al. J. Childers 1, SEc NW 23-18-16	*	910
Kid Ray Oil Co. Roberson 5, SEc NE NE NW 10-17-16	*	760
W. A. Dodd et al, Marshall 2, NEc SW SW 13-17-16	*	1412
Rogers County—		
Ed Maxson Mayson 1, C SW SW 6-19-17	*	525
Sequoyah County—		
LeFlore Gas and Electricity Co., Barrow 1, NWc NE NW 24-10-25	*	3134

California

Long Beach—		
Apex-Calmex Oil Co. Chandlee 1..	450	4816
R. R. Bush's Bell 2	300	4760
L. T. Edwards' Hines 1	450	4760
Fisher Oil Co.'s Dodge 2	250	3035
W. I. Lake's Los Cerritos 1	300	4815
Jack McKeon's Los Cerritos 8	175	4840
Rio Grande Oil Co.'s Retsof 81 ..	350	4830
Wheeler & O'Brien's Los Cerritos 1	900	4810
Torrance—		
C. C. M. Oil Co.'s Del Amo 45	200	3675
Santa Fe Springs—		
Associated Oil Co.'s Green 1	1165	4720
Newport-Costa Mesa—		
Bar-Mor Pet. Corp.'s Mesa 1	20	690
Elk Hills—		
Pan-American Pet. Co.'s No. 41	450..	3247
Old Kern River—		
C. C. M. Oil Co.'s No. 16	40	865
Midway—		
Bell-Evans Oil Co.'s No. 4	125	3173
King G. Gillette's No. A4	30	900
No. B11	30	900
Honolulu Consolidated Oil Co.'s No. 38	560	3162
Standard Oil Co.'s No. 46	140	4305
No. 2	160	4627
No. 4	260	4584
No. 7	200	4460
United Oil Co.'s Calidon 7	196	3077
Ventura Avenue—		
Bilsa Chica Oil Co.'s Hartman 1 ..	900	5434

Kansas

Butler County—		
Richmond Drilling Co. Dedrich 1, SEc SW 8-27-6	15	2724
Phillips Pet. Co. Reynolds 1, NEc SW NW 16-27-6, owd	490	3139
Phillips Pet. Co. Gibson 1, NWc SE 3-28-6	40	3078
Phillips Pet. Co. Sickles 1, SEc NE NE 12-23-6	*	3282
Tom Miller et al, Sturgeon 1, NEc lot 4, section 19-23-5	*	3260
Neeley Oil and Gas Co. Clark 1, SWc NE 33-27-5	*	3213
Dixie Oil Co. Truesdale 4, NWc SE SW 27-27-7	*	2785
Dixie Oil Co. Bateman 1, NWc SE SW 34-27-7	*	3239
Chautauqua County—		
The Prairie Oil and Gas Co. Conner 5, SE SW, owd, 20-33-12	5	946
The Prairie Oil and Gas Co. Hartzell 6, NE NW SW 26-34-11	¶3½	1320
Brouch et al, Carr 1, NWc SE 5-33-9	*	2590
Cowley County—		
J. A. Hull School land 1, NWc SE 15-32-4	1000	3320
Elk County—		
Pure Oil Co. Webb 9, SWc SE SW NW 13-31-10	5	1355
Theta Oil Co. Webb 2, NWc SW SW SW 23-31-10, owd	20	1630
Dandon et al, Webb 1, NEc 33-31-10	200	2351
Neeley Oil and Gas Co. Rettig 3, NEc SE NE 29-31-10	*	100
Greenwood County—		
Davis Hazlett et al, De Malorie 20, SEc NW SE 12-22-10	200	2135
McFinnis et al, Green 3, C NW SW SW 11-23-9	200	2345
White Eagle Oil and Refining Co. and Phillips Pet. Co. Morris, C SW NE SE 19-23-9	100	2591
Roth, Faurot and Phillips Pet. Co. Smith 1, SWc 10-23-10	25	2195
Texas and Simmons Oliver 2, NEc NE SE 1923-9	100	2591
Manhattan Oil Corp. Fuller 1, SWc NE SW 1-22-10	*	2100
Skelly Oil Co. Stiry 1, NWc SE NW 27-24-13	*	1998
Morgan et al, Neubracht 1, SEc NE 8-27-10	*	2000
Kingman County—		
Allison and Fitzwilliams Wilkinson 1, SEc NW NW 25-27-7	*	4293
Lyon County—		
Markham et al, Baker 1, NWc SE 27-18-11	*	2586
Culp et al, Parker 1, NWc SW 5-19-11	*	2712
Wynd and Sinclair Hames 1, NEc SE NE SW 7-20-1	*	2160
Sheedy et al, Hughes 1, NEc NW NE 19-21-10	*	2196
Osborn County—		
Knight et al, Boulby 1, NEc NW NE 9-10-14	*	....
Marland Oil Co. Spain 1, C S L SW SW 27-34-2	*	3898
Chase County—		
Vickers Pet. Co. Nichols 1, SWc NW 16-20-7	*	1984
Skelly Oil Co. Eastman 1, NEc SE 24-22-8	*	2805

Wyoming

Midwest Oil-Wyoming Associated No. No. 13A, SE¼ 25-40-79	100	1940
Wyoming Associated Oil Co. No. 22AS, NW¼ 14-40-79	100	2150
Midwest Oil Co. No. 16A, SE¼ 26-40-79	110	1490
Lost Soldier—		
Prairie Oil and Gas Co. No. 35A, 11-26-90	1500	1851
La Barge—		
W. D. Newton et al, No. 4, 3-26-113	500	758

Montana

Kevin-Sunburst—		
Medford Oil Co. No. 2, NE¼ 24-34-2	25	1400
Ohio Oil Co. No. 10M, 30-35-1	10	1500
No. 2S, 1-25-2	¶	1402

Arkansas

Stephens Field—		
Gordon-Folwell-Dickson Synd.'s Jones 4, 1-16-20	5	2225
Smackover Field, Ouachita County—		
Humble O. & R. Co.'s Arnold B-11, 26-15-16	*	2790
Ohio Oil Co.'s Mullins 14, 27-15-16	10	2005
Smackover Field, Union County—		
Amerada Pet. Co.'s Calloway 7, 4-16-15	165	2368
Murdock et al's Hayes 8,	200	2377
Total, 4 wells	375	
Lisbon Field, Union County—		
Atlantic Oil Prod. Co.'s Goodwin 5, 16-17-16	85	2175
Eason et al's Moody 1, 22-17-16	20	2140
Humble O. & R. Co.'s Goodwin 8, 16-17-16	80	2160
Lion O. & R. Co.'s Mitchell C-1, 17-17-16	50	2160
Magnolia Pet. Co.'s Harrell 3, 4-17-16	95	2135
Harrell 4, 4-17-16	100	2120
Slaughter 1, 8-17-16	¶1	2139
Natural Gas & Fuel Corp.'s Willett 4, 4-17-16	50	2125
Ohio Oil Co.'s Goodwin 5, 21-17-16	55	2174
Pure Oil Co.'s Harrell N-3, 4-17-16	15	2150
Reynolds & Marr's Goodwin 1, 21-17-16	20	2165
Rovenger Oil Corp.'s Goodwin A-7, 16-17-16	55	2110
Southern Crude Oil Purch. Co.'s Slaughter 3, 3-17-16	40	2112
Total, 13 wells	¶1-665	

Louisiana

Caddo Parish—		
Gulf Ref. Co.'s Ferry Lake 239, 20-20-16	215	2289
Ferry Lake 241, 15-20-16	135	2289
Total, 2 wells	350	
Crichton District—		
Gulf Ref. Co.'s Christopher 8	40	2600
Homer Field—		
Gulf Ref. Co.'s Geo. West 4, 19-21-7	10	1290
Urania Field—		
O. W. Clark Trust's Russell D-2, 25-10-1e	25	1560
Tullos 4, 23-10-1e	30	1508
A. Gibbon's Urania 1, 20-10-2e	*	1555
Hamilton et al's Wright 1, 26-10-1e	30	1550
Hardtner Oil Co.'s Urania 5, 7-10-2e	5	1540
H. L. Hunt's Tullos 14, 26-10-1e	30	1505
Hunt-McCurry-Zoder Synd.'s Urania 4	50	1510
Louisiana Oil Ref. Corp.'s Tremont B-33, 25-10-1e	135	1545
Geo. W. Wetherbee's Norrid 3, 25-10-1e	40	1555
Total, 10 wells	345	

Oklahoma Natural Gas To Have Maryland Charter

Tulsa, Okla.—Dissolution of the Oklahoma Natural Gas Company has been asked in the district court here, while applications for a charter for the Oklahoma Natural Gas Corporation has been made in Maryland.

These changes are the result of sale of the properties of the company this month, through a New York banking house. The change in corporate organization is not expected to result in any change in management of the concern.

Reports are that the Maryland corporation will have capital of $60,000,000.

Marvin Lee New President Kansas Geologists

Wichita, Kansas.—Marvin Lee, consulting geologist, was elected to fill the unfinished term as president of the Kansas Geological Society. The post was left vacant with the resignation of W. E. Scudder of the Gypsy Oil Company, who was transferred to Denver. George Forrester served as temporary president until the election last Saturday.

Vice-presidents are Charles Straub, Dixie Oil Company, and Edwin N. Carlson, White Eagle Oil & Refining Company. Walter Larsh of the Dixie Oil Company was elected secretary-treasurer.

Oil on Boulder Structure

Denver, Colo. — The Repollo Oil Company, subsidiary of the Sinclair interests, apparently has a commercial producer in its test of the Boulder structure, section 33-1-70. A sand was found at slightly less than 3400 feet and oil rose more than 1500 feet in the hole. The surprise of the test was the fact that the sand found was not the objective of the operators. They were expecting production at approximately 4500 feet, from the Dakota sand. The oil just found is of an exceptionally high grade, showing a test of above 46 degrees. It is not known whether the well will be produced from the present depth or drilled deeper.

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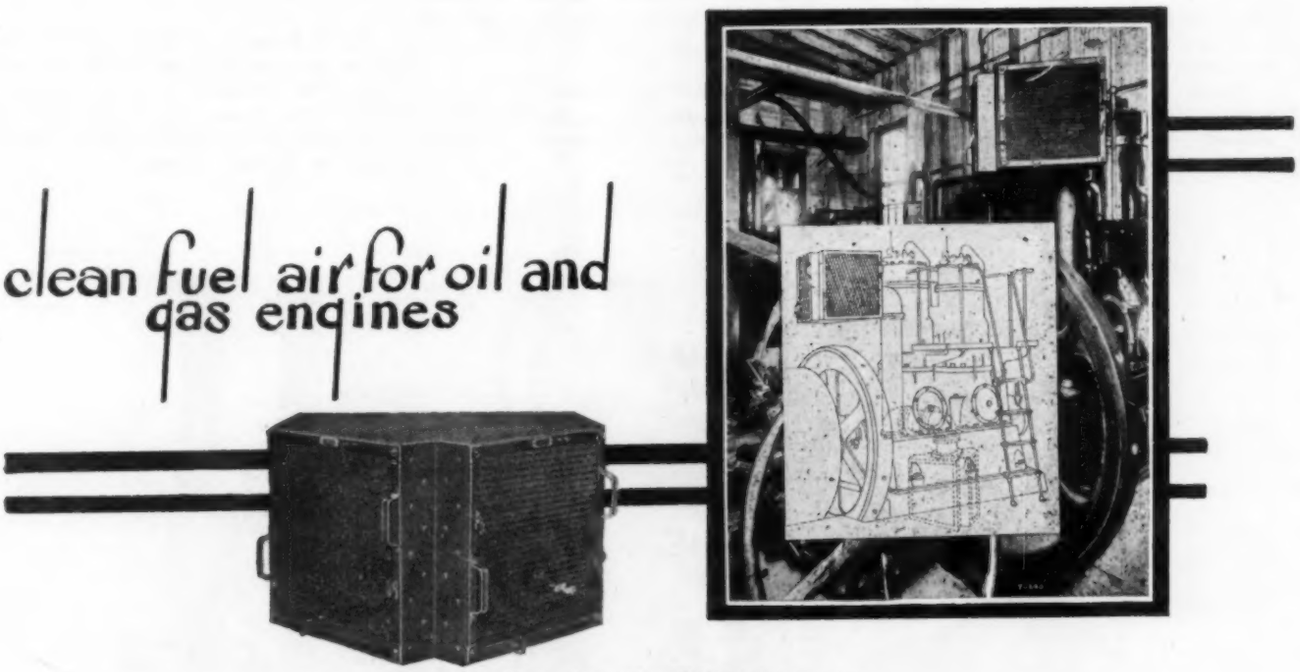

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Say you saw it in The OIL WEEKLY

Blowout Preventer Used As Part of Manifold

Use of the Cameron Iron Works Blow-Out Preventer as a part of the regular well manifold is gaining in popularity in fields of South Texas and Louisiana, and the advantages of this practice justify its description. The particular well at which the accompanying illustration was taken was drilled in the Lockport, Louisiana field. It came in for 4000 barrels of oil from 4300 feet. There was suspended on the well and on the rams of the blowout preventer, approximately 4000 feet of three-inch rotary drill stem with the wash pipe and setting tool.

A general description of how the preventer was used is given below:

On top of the casing that was set in the well was screwed the master gate valve. A "C. I. W." Blowout Preventer was connected to the top of the master gate valve. Into the two side outlets of the preventer was screwed two heavy swedge nipples. To the ends of these swedges was connected the flow line control valves. The rest of the connections on the flow line of the manifold followed the regular method of installation.

To the top of the preventer was connected an upper master gate valve. The liner with screen, wash pipe, etc., were lowered into the well through the preventer by means of the drill stem.

Should a well begin to flow while liner is being set or the well being washed, the blowout preventer is closed around the drill stem and the work continued, or the liner sealed to the casing. After washing is completed and the well sealed, the blowout preventer is then opened and the drill stem raised until the first coupling or tool joint is above the rams. The preventer is then closed and the collar or tool joint set back on the rams.

The pipe is then backed off above the coupling or tool joint and removed from the manifold. The upper master gate valve then can be closed, and the well is closed in as tight as it can possibly be.

More information about the "C. I. W." Blowout Preventer, used in this manner can be secured from the Cameron Iron Works, Houston, Texas.

Ship Separator to New Michigan Field

Wichita Falls, Texas. — Amos J. Mitchell, president of the M. & V. Tank Company of Wichita Falls, has recently returned from a trip to the new Saginaw field in Michigan where there is considerable drilling activity. The M. & V. Tank Company has shipped an Emvee sight flow separator to the Ohio Oil Company for use in this field.

Other large companies in the Middle West besides the Ohio Oil are interested in developments in the Saginaw area where operators are encountering considerable gas in their drilling activity.

Mr. Mitchell also visited in Denver and other points in the Rocky Mountain states in the interest of company business.

Shallow Well at Lost Soldier

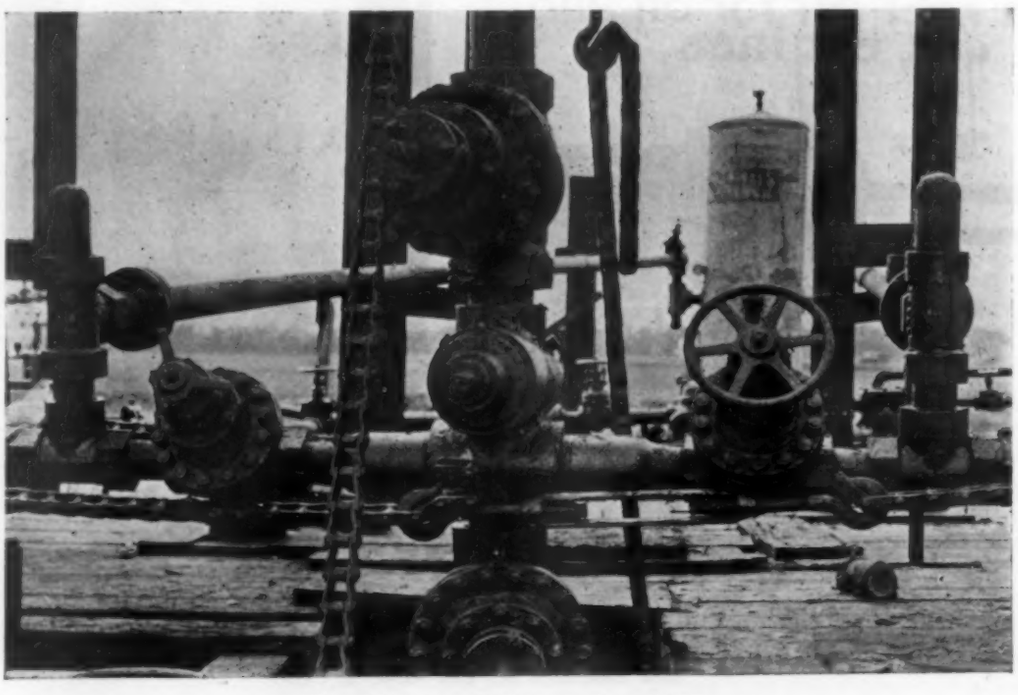
Casper, Wyo.—The Prairie Oil & Gas Company has completed a 1500 barrel well on section 11-26-90, Lost Soldier field. This is the largest well to be completed in this field for more than a year. The well was completed at the surprisingly shallow depth of 1851 feet. The Prairie interests dominate this field.

Oilwell Accessories to Sell Water Softener

Tulsa, Okla.—The Oil Well Accessories Corporation with offices at 329 East Fourth Street here, have been appointed oil country representatives for the Permutit Company of New York, manufacturers of water softening equipment. This company has built up a large business in the industrial field and are now extending their activities to the oil industry.

The Oilwell Accessories Corporation also are manufacturers of the Master pumping jack with sales and distribution in the various fields.

H. E. Robson of Wichita Falls, Texas is covering that district for the Lone Star Tool Company as field representative. The Lone Star Tool Company maintain their general offices and factory in Wichita Falls.



Blowout Preventer used as part of manifold

Kevin - Sunburst Producing New Grade of High Gravity Oil

Casper, Wyo.—The discovery of a very high grade crude in two places in the Kevin-Sunburst field marks one of the most important developments of the year. Although crude from the field in general is of a fair grade, it is of asphaltic base. The oil found most recently has a paraffin base and runs well above 40 gravity. The Sturdevant interests, operating on section 11-34-1w, has completed a 35-barrel well which is making oil so high in gravity that it can be used successfully in cars and trucks. It tests slightly less than 45 gravity. The oil appears to be coming from a stray sand at 1380 feet. The Rice Oil Company also has a small well on section 17-34-1, wthich is producing a light paraffin base crude from an unidentified sand at 3400 feet. The well was startetd as a deep test and was shut down last fall. It made water and some gas for several months, but has gradually been making more oil. Geologists believe that the oil is coming from a formation near the bottom of the Devonian series. Deeper Rocky Mountain sands usually produce a heavier grade of crude than the shallower formations. The discovery of a light oil under a heavier one in the Kevin-Sunburst field is especially significant at this time.

The latest extension to gain attention in the Kevin-Sunburst field embraces a strip north and east of the main structure. Acreage has been turning over at a fast rate since the Loy Oil Company reached a decision to drill on section 20-36-2e. Although the original lessees went about getting their leases in a quiet way, other operators were quick to sense the trend and jumped in the district within a few weeks. The leases lie on and near the Sweetgrass hills. Prominent geologists have passed favorably on the district, although no production has been found nearby.

There are now 543 producing oil wells in the Kevin-Sunburst field. In addition to the oil wells, 48 gas well have been completed, of which the greater number are also producing. Eighteen drilling wells are in various processes of completion. Rigs and locations inactive number 36. The greatest activity at present is noticed in the northeastern and southern extensions, where new locations are being made daily.

WILDCATS FROM ALL SECTIONS

West Texas Wildcats

COMPLETIONS

Company, Well and Location	Production Initial Bbls.	Depth
Crane County—		
Marland Oil Co.'s E. S. Hughes 1-C	195	2335
J. S. Cosden & Zweifel's Connell - .	*	4020
Crockett County—		
Carl Cromwell et al's Powell 4	150	2695
J. S. Cosden et al's Noelke 1	*	3275
Humble & Marland Oil Co.'s Powell 5 -	150	2642
Tom Green County—		
Roxana Pet. Corp.'s L. T. Clark 1.	*	3065
Howard County—		
Magnolia Pet. Co.'s Otis Chalk 1 ..	35	1606
Mitchell County—		
Magnolia Pet. Co.'s L. Coleman 1 ..	*	3875
Runnels County—		
Sillix-Rainwater et al's Krubber 1.	*	500
Upton County—		
Dixie Oil Co.'s A. S. Burleson 5 ..	40	2182
Marland Oil Co.'s A. S. Burleson 7	265	2130
A. S. Burleson 8	345	2152
A. S. Burleson 1-A	35	2176
Sanger Bros. 6 1500		2228

DRILLING REPORT

ANDERSON COUNTY—Amon G. Carter & Henry Zweifel's Cowden 1, lcn. Zweifel et al's Means 1, lcn.

BREWSTER COUNTY—Green Valley Oil Corp.'s J. P. Wilson 1, sd 2175 ft. John Roseborough et al's Skinner 1, sd 750 ft.

COCHRAN COUNTY—Whicker-Bledsoe et al's Landon 1, dk.

COKE COUNTY—Lipan Oil Co.'s E. C. Rawlings 1, sd 2640 ft.

CONCHO COUNTY — Culbertson Bros. & Co.'s W. G. See 1, dr 90 ft. K. Kimberlin et al's Schultz 1, sd 1425 ft. Eugene Mays et al's Wilson-Hartgrove 1, lcn.

CRANE COUNTY—Cranfill Bros. Oil Co.'s P. J. Lea 1, dk. Duffey Bros. et al's Cowden 1, lcn. Gulf Prod. Co.'s University 1, rig; J. T. McElroy 2 and 3, rigs; Grier-McElroy 1, 2 and 3, rigs. Magnolia Pet. Co. et al's University-Church 2, rig. Magnolia Pet. Co.'s University 1, sd water 900 ft. Marland Oil Co.'s Hughes-Gibbs 1, lcn; W. F. Durham 1, plugged back from 2667 to 2652 ft with 1000 ft oih. Zoch & Marland's Hughes-Keith 2, lcn. The Texas Co.'s Union 1-F, elevation 2431 ft, top salt 690 ft, sr cas with 2000 ft oil and some water in hole 3014-16 ft; H. M. King 2, rig. Tidal Oil Co.'s University 1, dr 110 ft.

CROCKETT COUNTY — The California Co.'s University 2, sd for cas 2595 ft. Gulf Prod. Co.'s Powell 4-A, dr 1520 ft; Powell 5-A, dr 830 ft. Humble & Marland Oil Co.'s L. P. Powell 8-A, top salt 1155 ft, dr 1430 ft; Powell 9, dr 485 ft; Powell 10, dr 560 ft. J. K. Hughes Dev. Co.'s Powell 2-A, dr 360 ft; Powell 3-A, rig; Powell 1-B, set 6⅝ cas 2610 ft. Magnolia Pet. Co.'s Shannon 1, sd 4200 ft. Marland Oil Co. & H. Wallace's J. S. Pierce 1, lcn. W. M. Schaffer et al's University 1, fsh cas after shot 2191 ft. Simon et al's Shannon 1, dr by tools 1240 ft. J. D. Young et al's Robt. Massie 1, dr 1355 ft. Young & Carl Cromwell's Shannon 1, lcn. F. P. Zoch & Marland's University 1, sd 2005 ft. H. F. Wilcox O. & G. Co.'s University 1, ur 8¼-inch cas with hfw 1685 ft.

CULBERSON COUNTY—Big Lake Oil Co. et al's C. L. Cass 1, lcn. Deep Rock Oil Co.'s TP Fee 1, elevation 3736 ft, dr 2005 ft. Pure Oil Co.'s Mrs. Quaid 1, elevation 3919 ft, sd 4430 ft.

JEFF DAVIS COUNTY—Herbert Oil Co.'s T. M. Wingo 1, co 3000 ft. Humble O. & R. Co.'s W. W. McCutcheon 1, set 10-inch cas 1555 ft. J. K. Hughes Dev. Co.'s J. Z. Means 1, dk; Means 2, lcn.

ECTOR COUNTY — J. S. Cosden et al's Johnson 1, dr 1640 ft; Connell 1-A, spd; Connell 1-B, elevation 2820 ft, top salt 1000 ft, dr 2500 ft. The Exploration Co.'s TP Fee 1, trying to set 10-inch cas 1050 ft. Llano Oil Co. et al's Cowden 1, rig. Simms Oil Co.'s W. P. Edwards 1, dr 651 ft. F. E. Skinner & Eastland Oil Co.'s J. W. Buchanan 1, top salt 1330 ft, 1885 ft. L. Taliaferro et al's Henderson 1, machine.

FISHER COUNTY—Ideal Oil Co.'s W. F. Martin 1, dr gray lime 2025 ft.

GAINES COUNTY—Hucony Oil Co.'s Lindsey 1, dr red rock 1450 ft.

GARZA COUNTY—Deep Rock Oil Co.'s S. M. Swenson 1, sd 2618 ft. Emerald Oil Co.'s J. M. Boren 1, sd 2600 ft; Connell 1-A, sd 3200 ft.

GLASSCOCK COUNTY — Case-Hoover et al's W. H. Sparkman 1, sd 3200 ft. Marland Oil Co. et al's Calder 1, sd 1600 ft.

TOM GREEN COUNTY—M. D. Bryant et al's Llano County Fee 1, fsh 2980 ft. World Oil Co.'s Pulliam 1, sd 855 ft.

HOCKLEY COUNTY — El Capitan Oil Co.'s Ellwood 1, lcn in sec 55, blk "A", R. M. Thompson survey.

HOWARD COUNTY—Deep Rock Oil Co.'s Scott 1, co after shot 2710-90 ft. Joe Edgar et al's Roberts 1, spudding. Lockhart & Co.'s Roberts 1, rig; W. T. Scott 1, fsh 655 ft; Otis Chalk 1, testing 1200 ft oih at 1553-86 ft. Magnolia Pet. Co.'s Otis Chalk 2, rig; Otis Chalk 3, lcn. Marland Oil Co.'s Otis Chalk 1, swabbing 55 bbls 1604-10 ft; Chalk 2, rig. Owen-Sloan Oil Co.'s Chalk 2, sd after shot in pay 1607 ft. Reeves-Apperman et al's H. R. Clay 1, spd and sd. Transcontinental Oil Co.'s Roberts 1, dr 3625 ft.

JONES COUNTY—Phillips Pet. Co.'s Joe Winters 1 dr by tools 660 ft. Shaw-Rathke et al's Wm. Bristow 1, sd 590 ft.

KENT COUNTY—The Texas Co.'s Barron 1, dr 3835 ft.

LOVING COUNTY — Lockhart & Co. et al's R. L. Allen 1, top salt 695 ft, dr 940 ft.

LYNN COUNTY—Hart Oil Corp.'s C. O. Edwards 1, sd 865 ft.

MITCHELL COUNTY — The California Co.'s Foster 1, swabbing 12 bbls 2950 ft. Magnolia Pet. Co.'s Abrams 1 dr 4155 ft. Mid-Kansas O. & G. Co.'s Ellwood 2, crooked hole 445 ft. Morrison-Thompson's Hyman 1, dr 3035 ft. Owen-Sloan Oil Co.'s C. P. Conway 1, fsh 400 ft. Teas-Stivers et al's Hardee 1, rig.

PECOS COUNTY—Dixie Oil Co.'s Hersheusen 1, sd repairs 5030 ft. Carl Cromwell et al's Scharff-Blackman 1, rig. Transcontinental Oil Co.'s Perry 1, dr 3280 ft. Quinby Oil Co.'s Townsite 1, sd 2800 ft.

PRESIDO COUNTY—Hadlock-Miller et al's Tootle 1, sd 2205 ft.

REAGAN COUNTY—H. D. Camp et al's University 1, top salt 1142 ft, sd 2675 ft. Marland Oil Co.'s University 1, lcn. Mascho & Marland Oil Co.'s Sawyer 1, dr with hfw 2615 ft. Frank Pickrell & Marland Oil Co.'s Sawyer 1, top salt 1110 ft, fsh 2330 ft. Simon et al's R. A. Walters 1, sd 2030 ft. Texon Oil & Land Co. of Texas' University 1, top salt 1020 ft, dr 2540 ft.

REEVES COUNTY—Carl Cromwell's (was Schooler-Slack) TP Fee 1, top salt 570 ft, dr 2400 ft. Grisham-Hunter Corp's State Fee 1, dr 415 ft. Humble O. & R. Co.'s TP Fee 1, trace oil and flowing salt water 4275 ft.

SCHLEICHER COUNTY — Beavers-Leath et al's Whitten 1, spd and sd. Cope-Dalton et al's Sol Myer 1, spd.

SCURRY COUNTY—Fogelson et al's Bryce 1, sd 1905 ft; Haney 1, lcn. Northwest Co.'s H. P. Welborn 1-A, sd for diamond core drill to go to 5000 ft, td 3428 ft.

STONEWALL COUNTY — Arkansas Fuel Oil Co.'s Craft 1, changing to rotary to go to 5000 ft, td 3665 ft. Swenson Oil Corp.'s Ward 1, sd 3828 ft.

STERLING COUNTY—The California Co.'s Davis 1, dr 3180 ft. Co-Operative Dev. Co.'s E. W. Douthitt 1-A, sd 2675 ft. The Exploration Co.'s C. A. Broome 1, dr 1030 ft. H. D. Rummel et al's L. T. Clark 3, sd 1175 ft.

SUTTON COUNTY — Chesapeak Oil Co.'s Clarkson-Allison 1, dr 3405 ft.

TAYLOR COUNTY—Sanger O. & R. Co.'s Norwood 1, sd 3434 ft.

TERRELL COUNTY—Sun Oil Co.'s N. M. Scott 1, dk. E. T. Williams et al's Sowden 1, fsh 1260 ft.

TERRY COUNTY—Doctor Gerson et al's Brownfield 1, lcn.

UPTON COUNTY—Cranfill Bros. Oil Co.'s (was Bryant) Baker 1, lcn. Dixie Oil Co.'s A. S. Burleson 4, swabbing 40 bbls oil 2210-60 ft; Burleson 6, rig; Burleson 7, lcn; E. S. Hughes 3, rig; Hughes 4, rig. W. W. Donnelly & Gerke's Rankin 1, elevation 2550 ft, dr 875 ft. W. H. Dunning et al's J. T. McElroy 1-A, and 2-A, lcns. Gulf Prod. Co.'s Sanger 1, elevation 3119 ft, top salt 1130 ft, top lime 2684 ft, standing with 200 ft oil and some water from gray lime at 2743-57 ft.

Humble O. & R. Co.'s McElroy 1, spd and sd; Ricker-Dodson 1, top salt 535 ft, dr 1875 ft. Independent O. & G. Co.'s Emma Wooley 1, swabbed 70 bbls first 7 hrs at 2025-2096 ft; Wooley 2, rig; Len Taylor 2, lcn; Taylor 3, 4, 5 and 6, rigs; Taylor 7, lcn. Marland Oil Co.'s Burleson 9, elevation 2582 ft, top salt 515 ft, rig burned 1385 ft; Burleson 10, top salt 555 ft, dr 600 ft; Burleson 11, spd; Burleson 12 to 19, rigs; Burleson 2-A, rig; Sanger 7, elevation 2684 ft, swabbing 130 bbls 2224-70 ft; Sanger 8, top salt 603 ft, dr 1565 ft; Sanger 9, rig; Sanger 10, dk; Sanger 11, lcn; Shirley 1, lcn. Republic Prod. Co. et al's Baker 3, dr with 250 ft oih 2250 ft. Roxana Pet. Corp.'s B. H. Estep 1, top salt 600 ft, dr 630 ft; E. S. Hughes 1, lcn; Della Bowen 1, rig; Bowen 2, lcn. Sartain Bros. et al's Mrs. Bull 1, dr 415 ft. Skelly Oil Co.'s O. P. Jones 1, spudding. Sun Oil Co.'s Burleson 1, top salt 510 ft, dr 650 ft; Burleson 2 and 3, rigs. Texas Pacific Coal & Oil Co.'s M. Shirk 1, lcn. The Texas Co.'s Union 1-C, sd 2850 ft; R. King 1, rig; King 3, dk; R. King 4, lcn; Burleson 1 and 2, lcns.

VAL VERDE COUNTY—A. Blume et al's Moore Estate 1, sd 2400 ft. Plateau Oil Co.'s B. S. Harrison 1, sd for cas 2450 ft. Independent Operators' Whitehead 1, sd 3340 ft.

WINKLER COUNTY—Brandon-McCamey et al's TP Fee 1, set 12½-inch cas 700 ft. B. S. Matthews et al's Cowden 1, lcn. L. Taliaferro et al's Sealy 1, lcn. Simon-Ladd et al's Ambrugey 1, rig. R. A. Westbrook & Co. et al's T. G. Hendricks 1, sec 42, blk B-5, Public School Lands, elevation 2806 ft, top salt 1930 ft, co to set 8¼-inch cas after making small flow 30 gravity oil 2525 ft.

YOAKUM COUNTY—Covey et al's Hurdle 1, spd and sd. Russell & Trunick's Hinkle 1, sd 305 ft.

Coastal Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Brazoria County—		
Rycade Oil Corp. Wisdom 7.....	*	1400
Hardin County—		
Yount-Lee Oil Co. Fee Lynn 1.....	2500	4113
Jefferson County—		
Gulf Prod. Co. Thomas 8.....	*	1532
Houston Oil Co. Sun Dyson 2.....	*	1153
Matagorda County—		
Gulf Prod. Co. Turner 1-A.....	*	2204
Sanborn 1	*	2945
Sheppard Mott Oil Co. Hawkins 2.	*	3531
Wharton County—		
The Texas Co. Felder 1	*	3434

DRILLING REPORT

AUSTIN COUNTY — Valley Oil Co.'s Thompson 1, 30 miles N of Orchard, no report.

BRAZORIA COUNTY—Roxana Pet. Corp.'s Clemens 2, Clemens dome, dr 2369 ft, shale and lime; Allen 2, Allen dome, dr 4765 ft, sandy lime rock. Rycade Oil Corp.'s Wisdom 7, Nash dome, abn 1400 ft, gyp; Wisdom 8, Nash dome, dr 3481 ft, sand and shale; Nash 8, Nash dome, set 6¾-inch cas 4298 ft; Nash 9, Nash dome, dr 1390 ft, gumbo.

CHAMBERS COUNTY—Roxana Petroleum Corp.'s State 1, Moss Bluff, lcn. W. C. Moore's Blanke 4, Winnie, 1250 ft gumbo. The Texas Co.'s League 2, 6 miles NW of Wallisville, 1200 ft, gumbo.

FORT BEND COUNTY—Gulf Prod. Co.'s Moore 7, Orchard, dr 2957 ft, hard lime; Moore 8, Orchard, dr 2400 ft, gumbo and lime; Davis 12, Long Point, dr 2498 ft, gumbo and boulders. Marland Oil Co. of Texas' Hartfield 1, Needville, lcn. The Texas Co.'s Farmer 1, Boling, rigging up. Sun Co.'s Farmer 1, Boling, dr 1069 ft, hard sand.

GALVESTON COUNTY—Gulf Prod. Co.'s Smith A-2, High Island, dr 2426 ft; Smith 5, High Island, dr 4626 ft, hard sand.

GOLIAD COUNTY—Houston Oil Co.'s Pettus 2, Goliad, wtg on cmt to set, 448 ft.

GRIMES COUNTY — Newblock Oil Co.'s Freund 1, no report.

HARDIN COUNTY — Capitol Oil Co.'s Hodges 5, Batson, bldg standard rig. Orange Prod. Co.'s Merchant 1, Sour Lake, dr 3300 ft, gumbo. Sun Co.'s Libbie 1, Sour Lake, dr 4425 ft, hard shale. Bashara Oil Co.'s Fee 1, Sour Lake, fsh 3698 ft. Unice et al's Fee 1, Sour Lake, ready to spud. Humphreys Oil Corp.'s Bashara 1-B, Sour Lake, dr 3410 ft, water sand; Bashara 2-A, Sour Lake, set 6¾-inch cas in oil sand, 3750 ft, td 3761 ft; Fee Lynn 1, Sour Lake, completed 2500 bbls pipe line oil 35 gravity, 4113 ft; Oxford-Kelley 1, Sour Lake, dr 1500 ft, gumbo.

HARRIS COUNTY—Kane Exploration Co.'s Foster Lbr. Co. 1, Huffman, dr 1660 ft, hard shale. Kelley et al's Lipper 1, Aldine, dr 2000 ft, gumbo. Benedum & Trees' Kennedy 1, Harmaston, dr 2711 ft, water sand. Gwyn et al's Cage 1, Huffman, sd 1400 ft, gumbo. Rio Bravo Oil Co.'s Settegast 3, Pierce Junction, rig; Pierce Fee 2, Pierce Junction, trying to shut off sw, 3885 ft.

JEFFERSON COUNTY—Gulf Prod. Co.'s Bordages 2, Fannette, dr 3892 ft, shale; Thomas 8, Fannette, abn 1532 ft gyp. Port Arthur Development Co.'s West 3, Westbury, sdtr 2285 ft. Houston Oil Co.'s Pipkin Davis 1, Big Hill, sd 2938 ft, sandy lime rock; Sun Dyson 2, Big Hill, abn 1153 ft, cap rock. Barbe et al's Garrick 1, Beaumont, dr 2200 ft, gumbo.

LIBERTY COUNTY—Sun Co.'s Masterson 3, Felicia, dr 2369 ft, gumbo. George Leland's Gorgan Lbr. Co. 2, 14 miles N of Dayton, dr 345 ft, gumbo.

LIVE OAK COUNTY — Mid-Kansas Oil Co.'s Drummond 1, 8 miles N Three Rivers, set cas 60 ft.

MATAGORDA COUNTY—Gulf Prod. Co.'s Craig 5, Hawkinsville, lcn; Sanborn 1, Hawkinsville, abn 2945 ft, gyp; Parkinson 1, Hawkinsville, dr 2630 ft, shale and lime; Turner 1-A, Van Vleck, abn 2204 ft, red shale. Humble O. & R. Co.'s Robbins 1, Van Vleck, dr 1705 ft, gumbo. Rycade Oil Corp.'s Kountze 2, Markham, dr 2656 ft, hard sand. Houston Gulf Gas Co.'s Kountze, 2 miles W of Markham, dr 2955 ft, gumbo and lime. Sheppard Mott Oil Co.'s Hawkins 2, Hawkinsville, abn 3531 ft, gumbo.

ORANGE COUNTY — Brownie Barbett's Lake Shore Farm 1, 6 miles SE Terry Field, moving in rig. Orange Prod. Co.'s Ocultree 1, Gum Island, sd 3300 ft.

WHARTON COUNTY— The Texas Co.'s Taylor 8, Boling, dr 4200 ft, anhydrite; Felder 1, Boling, abn 3434 ft; Felder 2, Boling, lcn.

East Texas Wildcats

COMPLETIONS

Company, Well and Location	Initial Production Bbls.	Depth
Bell County—		
R. R. Penn et al Peck-Williams 1..	*	1646
Limestone County—		
Transcontinental Oil Co. T. D. Ross 1	*	3057

DRILLING REPORT

ANDERSON COUNTY—Humble O. & R. Co.'s Southern Pine Lumber Co. 1, dr 3130 ft. Navarro Oil Co. et al's Greenwood 4, dr 1595 ft.

ANGELINA COUNTY—Flannigan Oil Co.'s J. M. Singleton 1, rig.

CHEROKEE COUNTY — Humphreys-Colliton Corp.'s P. O. Clapp 2, sd 3840 ft; Ousley 2, sd 3650 ft. Humphreys Corp.'s Bowling 1, dr 1830 ft. Humble O. & R. Co.'s Earle & Ragsdale 1, dr 2525 ft. Magnolia Pet. Co.'s J. L. Sumners 1, dk. Nicole & Wife's Hill 1, sd 535 ft.

ELLIS COUNTY—Magnolia Pet. Co.'s R. W. Getzander 1, dr 2415 ft. Simms Oil Co. et al's L. B. Griffith 1, dr 3035 ft.

FALLS COUNTY—Gulf Prod. Co.'s Bargainer 1, dr chalk 1660 ft. Highbank Oil Co.'s Peacock 1, sd 3500 ft.

GRIMES COUNTY—Newblock Oil Co.'s F. Fruend 1, dr shale 3060 ft.

LIMESTONE COUNTY — Kosse Synd.'s Fenner 1, sd 1065 ft. Pure Oil Co.'s T. A. Stockton 2, dr 3190 ft; Holton 1, sd 2985 ft. C. F. Lytle et al's Curry 1, sd 2520 ft. R. R. Penn & Navarro Oil Co.'s Mrs. Peeples 1, near Tehuacana, lcn. Wells et al's Richardson 1, sd 2000 ft.

NAVARRO COUNTY—Eureka O. & G. Co.'s Fullwood 1, sd 1020 ft. C. E. Dixon et al's W. L. Garrett 1, lcn. McDonald Bros. et al's McClelland Heirs 2, sd 1250 ft. J. O. Osborne et al's Mitchell 1, top chalk 1542 ft, sd 2480 ft.

MILAM COUNTY—The Texas Co.'s Kuykendall 1, dr chalk 1990 ft.

San Antonio Wildcats

BEXAR COUNTY—Dingman Oil Co.'s No. 2 Gembler, abn at 820 ft. Marland Oil Co.'s No. 1 Milhaski, abn below 2560 ft in Glenrose. W. E. Rutledge's No. 1 Brooks, set casing at 1050 to test show. Storey and Steirin's No. 1 Cover, abn at 1957 ft in Edwards.

BROOKS COUNTY—Benedeum et al's No. 1 Wormser Bros., dr.

CALDWELL COUNTY— Foster-Reiter Oil Corp.'s No. 1 Denges, spd in. Gulf Prod. Co.'s No. 1 Alexander, dr. Storey et al's No. 1 McConnell, dr 2375 ft in chalk. United North & South Dev. Co.'s No. 1 Kelly, dr below 6000 ft; No. 1 Tiller, dr below 6000 ft; No. 2 Callahan, lcn.

DUVAL COUNTY—Associated Oil Co.'s No. 1 Sutherland, dr, Barkely, Meadows and Morgan's No. 1 King Harper, sur 323, set cas at 1745 ft to test sand to 1748 ft; No. 2 Benavides, dr; No. 3 Benavides, dr. Graham et al's No. 1 Beall, set casing at 2437 ft to test. Houston Oil Co.'s No. 3 Benavides, prep to test. Humble Oil & Ref. Co.'s No. 5 Walsh, completed fsh job for swab; No. 1 Dowdy, dr below 2500 ft; No. 6 Walsh, dr 3400 ft; No. 5 Schallert, dr; No. 9 Singer, dr. Killam-Slocum's No. 1 Benavides, dr. Killam-Alexander's No. 1 Benavides, dr. Magnolia Pet. Co.'s No. 1 Speer, dr around 3800 ft. Maurer & Duggin's No. 1 Hoffman, dr below 3650 ft. Moody Oil Corp.'s No. 3 Benavides, dr below 2100 feet. O'Hern, Putnam and Seacord's No. 1 Benavides, dr at 1115 ft. Pittsburgh Oil Corp.'s No. 1 Sutherland, dr. Seagraves & Moody's No. 1 Mesquite, showed oil and gas, 1970 ft to 2040 ft, dd; No. 2 Benavides, dr; No. 3 Benavides, dr; No. 4 Benavides, dr; No. 1 King Harper, dr. Simms Oil Co.'s No. 1 Schallert, showed sw at 3595 ft, dd; No. 2 Dinn, dr below 700 ft.

GUADALUPE COUNTY— Armstrong's No. 1 Dale, dr. J. M. Davis' No. 1 Pooley, ru; No. 1 Ridout (Van Kuren), prep to set cas to test; No. 1 Payne & Bond, ru. Humble Oil & Ref. Co.'s No. 1 Wholfahrt, dr; No. 1 Julian Strapper, dr. Wildman & Blackwell's No. 1 Smith, dr 2000 ft.

JIM HOGG COUNTY—Associated Oil Co.'s No. 1 Holbein, dr; No. 1 Allen, dr. Andrews Pet. Co.'s No. 1 Bank, dr. Bailey et al's No. 1 Palacios, dr. Benedum et al's No. 1 Allen, set cas. Collins et al's No. 3 Palacios, dr in. Crown Central Pet. Co.'s No. 1 Holbein, dr. Head et al's No. 1 Palacios ,dr. Holden et al's No. 1 Jones, dr. Maddox & E. L. Smith Oil Co.'s No. 1 Palacios, spd in. Murchison & Fain's No. 1 Allen, dr; No. 2 T. Vela, dr. Morgan et al's No. 1 Palacios, dr. National Oil Co.'s No. 1 Allen, dr. Oil Exchange's No. 1 Palacios, dr. Simms Oil Co.'s No. 1 Leyendecker, dr below 2200 ft; No. 3 Weil, spd in. Simmons et al's No. 1 Schroeder, spd in.

MEDINA COUNTY—Alamo Drilling Co.'s No. 1 Kenedy, dr. Arnett Oil Corp.'s No. 4 Nixon, dr at 375 feet. Calif.-Medina Oil Co.'s No. 1 Rothe, dr Eastham & Tarver's No. 2 Viola Wilson, dr; No. 1 Ward, dr. Golden West Oil Co.'s No. 1 Courand, dr at 318 ft; No. 6 Schmitt, dr at 479 ft. Grayburg Oil Co.'s No. 1 Ward, dr. Ina Oil Co.'s No. 1 Hoffman, sur 535, coring lime at 1912 ft; No. 3 Finger, dr below 600 ft. Kittle & Townley's No. 1 Bendele, pulling liner 960 ft. McCaldin No. 1, dr 2300 ft. Plateau Oil Co.'s No. 1 Johnson, dr; No. 1 Bendele, dr; No. 1 Odem, dr. Patterson & Patterson's No. 1 Longfield, dr. Rand et al's No. 1, dr. Reager et al's No. 1, sur 117, dr. Schermerhorn Oil Co.'s No. 3 Irrigation Co., dr below 1520 ft. Tarver & Sprague's No. 1 J. O. Redus, sur 92, ru. United North & South Dev. Co.'s No. 1 Odem, dr; No. 1 Taylor, cored 20-ft sand at 220 ft, dd; No. 2 Taylor, lcn. Witherspoon Oil Co.'s No. 1 Adams, spd in. Walsh et al's No. 1 Saathoff, dr. Cullin & Clark's No. 1 Hinnant, no report. Killam's No. 1, sur 307, prep to test. Magnolia Pet. Co.'s No. 1, Cuellar, dr. Perkins & Hill's No. 1 Yeager, abn. Trees Oil Co.'s No. 1 Benavides, ru. Texas Co.'s No. 3 Jennings, spd in.

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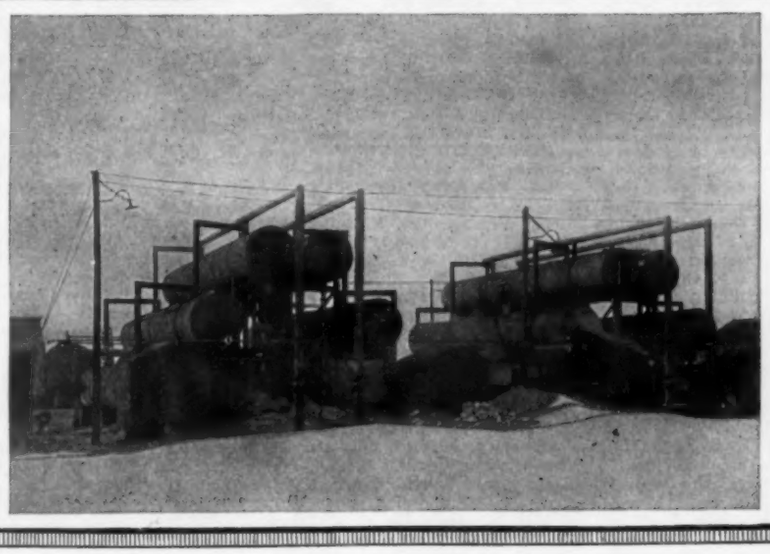

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ENGINEERS & CONTRACTORS IN NATURAL GAS AND OIL

Louisiana Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Winn Parish—		
Keen & Woolf's Robescich 1, 21-12-3w	*	2330

DRILLING REPORT

BIENVILLE PARISH—Collins & Woodley's Thomas 1, 23-16-10, lcn.

BOSSIER PARISH—Benton Synd.'s Bulkley 1, 9-20-13, sd 1475 ft. Collins & Woodley's Antrim 1, 4-21-11, dk; L. & A. Ail Co. 1, 14-23-12, gas blow-out 3110 ft, coring 3115 ft. Doern et al's Bolinger 1, 9-22-11, sd 2028 ft. Herndon et al's Burkhalter 1, 17-18-11, dk. The Texas Co.'s Moon 1, 13-19-11, sw 495 ft.

CADDO PARISH—Dixie Oil Co.'s Jolley 1, 27-22-15, dr 4145 ft. Gulf Ref. Co.'s Byrd 1, 2-19-14, testing 2865 ft; Muslow 1, 35-21-15, dr 4370 ft; Tyson 1, 14-21-15, testing 3819 ft. Magnolia Pet. Co.'s Bradford 1, 23-21-15, coring 3675 ft; Dillion 16, 24-21-15, set 8⅝-inch 2498 ft; Dillion 17, 24-21-15, set 8⅝-inch 2494 ft; Spell 1, 29-21-15, dr 3215 ft. Ohio Oil Co.'s Ardis 1, 1-21-15, plugging back to gas formation at 3829 ft. The Texas Co.'s C. M. L. 42, 23-21-15, setting 4½-inch 3700 ft; C. M. L. 43, 23-21-15, sd 3001 ft; Federal-Jeems Bayou B-1, 15-20-16, plugging back to 2180 ft.

CALDWELL PARISH—Cherokee Pet. Co.'s Louisiana-Central 1, 10-11-2e, coring 1755 ft. Chal Daniels' Lively 1, 6-12-4e, bailing 1656 ft. Grant et al's Cruse 1, 8-11-4e, sd 1470 ft. Humble O. & R. Co.'s Louisiana-Central Lbr. Co. 1, 9-11-3e, dr 1635 ft. Robbins et al's Beazley 1, 10-11-4e, rig. Southern Crude Oil Purch. Co.'s Caldwell Lumber Co. 1, 35-14-5e, rig; Caldwell Lbr. Co. 2, 1-13-5e, lcn. Wright et al's Love 1, 16-11-2e, sd 1625 ft.

CATAHOULA PARISH—S. B. Goodman's Montgomery 1, 8-10-9e, dr 2625 ft.

CLAIBORNE PARISH — Brown et al's Heard 1, 28-19-5, sd 2500 ft. Gilliland Oil Co.'s Taylor B-10, 14-23-8, 5 million feet gas 4332 ft. Gulf Ref. Co.'s Crichton 1, 35-19-8, lcn. Triangle Drilling Co.'s Keen 1, 7-19-5, coring 4310 ft.

DE SOTO PARISH—Alden Oil Co.'s Powell 1, 13-11-10, sd 240 ft. Carnahan et al's Hollingsworth 1, 11-4-9w, dr 345 ft. Dixie Oil Co.'s Jenkins 1, 9-12-11, reset 6⅝-inch 3815 ft. Dresser et al's Williamson 1, 20-15-14, set 6-inch 2720 ft. J. P. Evans' Sutherlin 1, 20-12-14, gas 2904 ft; Louisiana L. & D. 1, 15-12-14, set 6-inch 2950 ft. Magnolia Pet. Co.'s Bond 1, 27-12-11, dr 3285 ft. Peer Oil Corp.'s Williams 1, 23-13-13, rig. J. C. Walton's Harp 2, 36-12-11, dk pat; Chaffraix 1, 25-12-11, dr 2115 ft.

GRANT PARISH — Bradley & Cazort's Holmes 1, 16-9-1e, dr 8-inch plug 1456 ft. Fuller et al's Harrison 1, 9-8-5w, dk. Gulf Ref. Co.'s Swope 2, 17-9-1e, dr 900 ft. Humble O. & R. Co.'s Barnes 1, 26-8-5w, set 10-inch 89 ft; L. & A. Oil Co. 8, 15-9-2w, dr 975 ft; L. & A. Oil Co. 9, 27-9-1w, lcn; L. & A. Oil Co. 10, 13-9-2w, lcn; L. & A. Oil Co. 11, 20-9-2w, rig. Hurdley et al's Ball 1, 32-7-1w, sd 1800 ft. Tunica Pet. Co.'s L. & A. Oil Co. 2, 32-9-1e, rig.

JACKSON PARISH — Houseman et al's Norton 1, 34-15-3w, dk. Louisiana Pet. Co.'s Davis 1, 20-16-3w, dk.

LA SALLE PARISH—Cherokee Pet. Co.'s Louisiana Central Lumber Co. 3, 33-11-3e, sd 1200 ft. Tunica Pet. Co.'s L. & A. Oil Co. 3, 19-9-2e, coring 1745 ft; L. & A. Oil Co. 4, 15-9-3e, dk. Spencer & Rhodes' Urania 1, 1-10-1e, gas blow-out 1325 ft.

LINCOLN PARISH— Arkansas Fuel Oil Co.'s Cooper 1, 3-20-4w, dr 2335 ft. Buckley & Palmer's Davis 1, 12-20-3w, sd 2075 ft.

MADISON PARISH—Bannon et al's Yerger 1, 51-16-14, sd 1090 ft.

MOREHOUSE PARISH—Boisseau et al's Sullivan 1, 11-21-7e, sdtr 2532 ft.

NATCHITOCHES PARISH — Davidson et al's Guillatt 1, 47-7-5, dr 1925 ft; Williams 1, 31-8-5, dk pat. Forrest Trust's Ayers 1, 3-13-7, dr 1975 ft. J. F. Palmer's Edenborne 1, 4-11-6, sd 2015 ft.

OUACHITA PARISH — Ouachita Natural Gas & Oil Co.'s D'Arbonne 2, 25-19-2e, fresh water 135 ft.

RAPIDES PARISH—Hincy & Mack's Barrow 1, 29-5-2e, sd 1250 ft. Minnesota Oil Corp.'s Wattermark 1, 7-5-3w, rig. Pacholik et al's Voda 1, 12-4-1e, dk. Wheelen et al's Lanier 1, 3-4-3e, sd 1300 ft.

SABINE PARISH—Emlet et al's Bowman-Hicks 5, 8-7-12, dr 4065 ft; Bowman-Hicks 7, 11-7-14, sd 1260 ft; Sabine Lumber Co. 1, 8-7-1e, dk. J. B. Greer's Peavy-Wilson 2, 11-5-9w, dr 1975 ft. Toro Pet. Co.'s Drake 3, 19-4-11, lcn.

UNION PARISH—Arkansas Fuel Oil Co.'s Reeves 1, 14-20-1e, dr 3850 ft. Clark Creek Oil Co.'s Frost-Johnson 1, 18-23-1e, sd 2240 ft; Frost-Johnson 2, 8-23-1w, dk.

WEBSTER PARISH — Humble O. & R. Co.'s Cox 1, 22-21-10, dr 2385 ft. Magnolia Pet. Co.'s Sexton 1, 32-23-9, set 10-inch 409 ft. Ohio Oil Co.'s Cox 1, 23-21-10, dr 5720 ft; Holloway 1, 23-21-10, setting 6-inch 4254 ft. Smitherman & McDonald's Oakley 1, 29-23-11, dr 4575 ft. Southern Crude Oil Purch. Co.'s Munn-Wadley 1, 1-22-10, coring 4300 ft. Palmer Corp.'s Crichton 1, 30-20-8, lcn.

WINN PARISH—Cedar Creek Pet. Co.'s Sullivan 1, 6-10-2w, sd 1700 ft. J. R. Hale's Eagle 1, 6-10-2w, sd 950 ft. Humble O. & R. Co.'s L. & A. Oil Co. 7, 12-9-3w, dr 1530 ft; Tremont 1, 26-11-1e, dr 575 ft. W. T. Hunt's Edenborne 1, 8-9-3w, dr 2100 ft. Keen & Woolf's Tisdale 1, 26-10-1e, dr 1500 ft. Ohio Oil Co.'s Edenborne 1, 4-12-1w, coring 1485 ft. Wilson et al's Louisiana-Central 1, 2-13-1e, dr 1675 ft.

Arkansas Wildcats

ASHLEY COUNTY—Pine Prairie Oil Co.'s Pine Prairie 2, 1-17-16, sd 3405 ft.

BRADLEY COUNTY—Magnolia Pet. Co.'s Arkansas Timber 1, 35-15-11, set 13⅜-inch 913 ft. McMurray et al's Southern 1, 7-15-11, rig. Yount et al's Southern Lumber Co. 1, 2-16-17, dk pat.

CALHOUN COUNTY—Southern Crude Oil Purch. Co.'s Calion 1, 1-16-14, dr 2750 ft.

CLARK COUNTY—Heath et al's Arnold 1, 12-9-20, sd 830 ft. Wheelen Oil Co.'s Brown 1, 35-10-20, dr 2307 ft.

CLEVELAND COUNTY — Kingsland Oil Co.'s Hall 1, 31-10-10, dr 20 ft.

COLUMBIA COUNTY—H. W. Aarnes' Brown 2, 13-15-20, dr 3465 ft. Kent & Fullenwilder's Wingfield-Moody 1, 18-19-19, sd 2400 ft. Ky-Ark Pet. Co.'s Doss 1, 29-19-20, sd 2450 ft. Scott Phillips' Davis 1, 6-18-20, sd 1110 ft.

DREW COUNTY—McClintock et al's Ogle 1, 35-13-5, sd 2397 ft.

HEMPSTEAD COUNTY— Burton et al's Garland 1, 23-10-25, sd 1940 ft. Myers et al's Nichols 2, 17-11-25, set 8-inch 1155 ft.

JEFFERSON COUNTY—Decem Oil Co.'s Hensley 1, 7-3-10, sd 2505 ft.

LA FAYETTE COUNTY—Arkansas Fuel Oil Co.'s Allen 4, 18-19-24, dr 1050 ft; Red River Lumber Co. 4, 18-19-24, dr 3300 ft. Gulf Ref. Co.'s Red River Lbr. Co. 1, 10-19-24, dr 650 ft. The Texas Co.'s Calvin 1, 14-17-24, dr 900 ft.

LITTLE RIVER COUNTY—Greeson et al's Waldrip 1, 4-13-21, dr 1100 ft. Grote et al's Allen 1, 2-13-29, sw 2932 ft. Johnson et al's Hawkins 1, 10-11-31, dr 1775 ft.

NEVADA COUNTY—Greeson et al's Tidwell 1, 22-13-21, sd 1200 ft. Humble O. & R. Co.'s Bodcau 4, 9-15-22, fsh 2390 ft.

OUACHITA COUNTY—Grayson et al's Reynolds 1, 21-14-17, dk. Harrell Trust's Moline Timber Co. 3, 9-12-17, coring 1210 ft. Louisiana Oil Ref. Corp.'s Culp 1, 22-15-19, dr 500 ft. Phillips Pet. Co.'s Tatum 1, 9-14-17, r 3111 ft. Reynolds et al's Howell 1, 15-14-18, dr 600 ft. Van Diver et al's Yarbrough 1, 2-14-18, sd 1656 ft.

UNION COUNTY—Grimes & Jones' Alphin 1, 6-18-15, fsh 2090 ft. Jones & Murphy's Loutre 1, 5-19-14, rig; Union Saw Mill 1, 27-19-14, dr 110 ft. Kampeter et al's Townes 1, 34-19-11, coring 1325 ft. Simms Oil Co.'s Simmons 1, 9-18-13, set 12½-inch 168 ft. The Sun Co.'s Brown 9, 8-18-15, coring 3100 ft. Walber et al's Cordell 1, 6-18-13, coring 2490 ft. Wingfield et al's Gallagher 1, 10-17-17, dr 2180 ft.

Northern California Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Devils Den—		
Devils Den Prod. Co. No. 1	10	560

DRILLING REPORT

ANTELOPE PLAINS—Marland Oil Co.'s No. 1, dr 5200 ft. Union Oil Co.'s No. 1, fsh 2570 ft.

DEVILS DEN—Devils Den Prod. Co.'s No. 1, pumping 10 barrels oil 560 ft; No. 4, dr 125 ft. Marathon Oil Co.'s No. 1, dr 4365 ft. Robins Oil Co.'s No. 1, will set at 1600 ft.

GOULD HILLS—Hastain-Purman's No. 1, sd 2185 ft. Mendocino-Midway Oil Co.'s No. 1, bailing 1733 ft.

ROSEDALE—A. G. Schwartz's No. 1, dr 3300 ft.

TEMBLOR HILLS—Hovey Hills Oil Co.'s No. 1, sd 2510 ft. Forutna Oil Co.'s No. 1, cmt 2070 ft.

WASCO—Main Oil Co.'s No. 1, sd 5304 ft. Main Oil Co.'s No. 2, preparing to re-dr from 4200 ft.

EASTERN KERN CO.—Crusaders Oil Co.'s No. 1, dr 2172 ft; Mackey 1, dr 670 ft.

ELK HILLS—Interstate Oil Corp.'s No. 1, sd 5156 ft. Naval Reserve Oil Co.'s No. 1, sd 3676 ft. North Elk Hills Oil Co.'s sd 4002 ft.

McKITTRICK FRONT—Goldman & Sons' No. 1, sd 3030 ft. Hall-Baker-Workman Oil Co.'s No. 1, sd 1024 ft. Oleo-Fluo Oil Co.'s No. 3, sd 772 ft. Ridge Oil Co.'s No. 1, re-dr 2500 ft. Sisson-Wisdom's No. 2 cmt 650 ft. Wellington Oil Co.'s No. 1, abn 1225 ft.

SUNSET DIST.—Bell-Wrightsman's No. 1, sd 5335 ft. Fresno-Sunmaid Oil Co.'s No. 1, waiting on orders 4200 ft. King G. Gillette's No. 1, sd 2100 ft. General Pet.'s Blythe 1, straightening hole 125 ft. Milham Exploration Co.'s No. 2, cmt 650 ft. Shell Co.'s No. 1, dr 2955 ft.

FRESNO COUNTY

CLOVIS—W. W. Taylor's 5-13-22, dr 560 ft. Fresno-Madera Oil Co.'s No. 1, ready for deepening 3760 ft.

WARTHAM—Bald Mountain Drilling Co.'s No. 1, dr 486 ft.

HURON—Associated Oil Co.'s No. 1, fsh 1800 ft.

KERMAN—Associated Oil Co.'s No. 1, sd 5735 ft.

RAISIN CITY—Fresno-United Oil Co.'s No. 1, dr 3490 ft.

KINGS COUNTY

KETTLEMAN HILLS — Bolsa Chica Oil Co.'s No. 1, dr 2100 ft. Louis D. Fay's No. 1, dr 310 ft. Marland Oil Co.'s No. 1, fsh 5570 ft. Hugh McPhail's No. 1, dr 1970 ft. South Coalinga Oil Co.'s No. 1, dr 1150 ft.

VENTURA COUNTY

CAMARAILLO—Standard Oil Co.'s Camaraillo, 15½-inch set at 856 ft. Gentry Oil Corp.'s Camaraillo 1, sd 1278 ft.

CASITAS-OJAI—E. J. Miley's Casitas 2, dr 278 ft. Hess-Rue-Henderson's Riva 1, dr 380 ft. Rio Grande Pet. Co.'s Canet 1, dr 400 ft.

MONTALVO—Standard Oil Co.'s Valentine 3, dr 1791 ft.

SOUTH MOUNTAIN — Gillette-Howard's Grant-Elkins 1, dr 2600 ft. Ring Pet. Corp.'s Converse 1, sd 3760 ft.

PIRU DISTRICT—H. R. Dabney's Henderson 1, dr 234 ft. Hopper Canyon Oil Co.'s No. 1, sd 4631 ft.

SESPE-FILMORE—Sespe Oil Co.'s Smith 2, cmt 4060 ft. Sentinel Oil Co.'s Flats 1, cmt 398 ft.

VENTURA—Associated Oil Co.'s McGonigle 1, dr 3820 ft. Chanslor-Canfield's Hobson 1, dr 4854 ft. Milham Exploration's Sexton 1, dr 5300 ft.

SUMMERLAND—Geo. F. Becker's No. 1, dr 2270 ft.

ORCUTT—West Penn Prod. Co.'s No. 1, cmt 350 ft. Standard Oil Co.'s No. 1, rigging up.

SAN LUIS OBISPO CO.—Arroyo Grande Pet. Co.'s No. 1, re-dr 3640 ft. Barneyberg Oil Corp.'s No. 1, testing 4486 ft. Waklin Pet. Co.'s No. 1, dr 2431 ft.

MONTEREY COUNTY — Henigan-Schweni-

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gan's No. 1, dr 2765 ft. Harriman-Jones' No. 1, recovered bailer 4298 ft. Pan-American Pet. Co.'s No. 1, dr 1250 ft.

SONOMA COUNTY — Shell Co.'s Murphy 1, dr 1300 ft.

Southern California Wildcats

COMPLETION

Company, Well and Location	Initial Production Bbls.	Depth
Newhall-Saugus—		
Milham Exploration's Conroy 2	*	3985

DRILLING REPORT

BIXBY HILLS—National Security Oil Co.'s No. 1, sd 5151 ft. Orange County Pet. Co.'s No. 1, sd 2820 ft.

CLEARWATER — Featherstone-Preston's B. & C. 1, sd 50 ft.

CLAREMONT—Claremont Oil & Gas Co.'s No. 1, co 1045 ft.

EAGLE ROCK — Calwin Oil Co.'s Eagle Rock, dr 5903 ft.

EL SEGUNDO—Rider Synd.'s El Segundo 1, sd 1200 ft. Union Oil Co.'s Howland 1, dr 3210 ft.

HAWTHORNE — Winwell Oil Co.'s well, bailing 5581 ft.

IRVINE—Calny Oil Co.'s Irvine 1, sd 4247 ft.

LANCASTER—Rudd-Assmussen's No. 1, dr 1480 ft.

LONG BEACH—Miller-Haley's Extension 1, dr 3650 ft.

MANHATTAN—Geo. W. Johnson's Martin 1, dr 4500 ft. Julian Pet. Corp.'s Trust 1, dr 4760 ft. Manhattan-Pacific's Bardeen, testing 4409 ft. Redondo Community's M. G. E. 1, sd.

MAYWOOD—Magnolia Pet. Synd.'s Tweedy 1, redr 2700 ft.

NEWHALL-SAUGUS — Marland Oil Co.'s Wickham 1, dr 3755 ft. W. G. McAdoo, Jr.'s Newhall 1, pumping little oil 1270 ft. Milham Exploration's Conroy 2, abn 3985 ft. W. W. Stabler's Castaic 1, rigging rotary 1970 ft. Temple-Lefevre's Castaic 1, sd 2107 ft. Union Oil Co.'s Saugus 1, dr 3245 ft.

PACOIMA—W. O. Brubaker's Fernando 1, fsh 2698 ft.

PUENTA—Barnsdall Oil Co.'s Merlo 1, dr 2855 ft.

RESEDA — Petroleum Securities' Sesnon 1, dr 1760 ft.

SAN FERNANDO—Standard Oil Co.'s University 1, dr 3026 ft.

SAN JOSE HILLS — Bardeen Oil Co.'s Didier 3, sd 1938 ft. D. & B. Oil Co.'s Amar 1, cemt. 2260 ft.

SAN JUAN CAPISTRANO — A. P. & K. Synd.'s No. 1, sd 2135 ft. California Pet. Dev. Co.'s No. 1, rig.

TELEGRAPH CANYON—Quadra Pet. Co.'s M. J. & M. well, bailing 3235 ft.

TOPANGO CANYON — Standard Oil Co.'s Austin 1, dr 700 ft.

VAN NUYS—Van Nuys Community Co.'s No. 1, sd 3701 ft.

RIVERSIDE COUNTY—Corona Oil & Gas Test's No. 1, dr 685 ft. Spindletop Oil Synd.'s No. 1, dr 2440 ft. Trabuco Oil Co.'s No. 1, dr 1190 ft.

SAN BERNARDINO COUNTY—Burgess & Goodale's Riggings 1, dr 3300 ft. Burgess & Goodale's Carl 1, dr 520 ft. Como Oil Co.'s Cajon 1, sd 1380 ft. Colton Terrace Oil Co.'s Colton 1, dr 1044 ft. Del Rosa Oil Co.'s No. 1, sd 2460 ft. Dome of Chino Valley's M. & C. 1, sd 1956 ft. Hesperia Oil & Gas Co.'s No. 1A, sd 3275 ft. Victor Valley Landowners' Victory 1, sd 1740 ft. Western Pacific Oil Co.'s No. 3, dr 750 ft. Rimer Oil Co.'s Tebo 3, sd 830 ft. Rimer Oil Co.'s McDermott 1, dr 200 ft.

SAN DIEGO COUNTY—Cardiff Oil Corp.'s Turner 1, rig.

Rocky Mountain Wildcats

WYOMING

Bradford Oil Co.'s No. 1 Emigrant Gap, 23-34-82, sd 2620 ft. Mosher Synd.'s No. 1 Triangulation dome, 30-34-81, ur 1550 ft, td 1515 ft. Texas Production Co.'s No. 1, Quealy dome, 13-17-77, ur 1879 ft, td 2200 ft; No. 1, Quealy dome, 8-17-77, ur 2375 ft, td 2380 ft; No. 1, Big Sand Draw, 15-32-95, dr 2850 ft. Prairie Oil & Gas Co.'s No. 1, Buffalo Basin, 7-27-95, fsh 2775 ft; No. 2, Buffalo Basin, 17-27-95, dr 2200 ft; No. 1 Gooseberry, 32-47-100, dr 3360 ft. Ohio Oil Co.'s No. 1, Mellen dome, 13-29-32, fsh 3114 ft; No. 3, Hidden dome, 31-48-90, fsh 2645 ft; No. 2, Byron, 33-56-98, new lcn; No. 3, Oregon Basin, 8-51-100, dr 255 ft. Union Oil Co. of California's No. 1, Hot Springs County, 34-43-91, dr 160 ft; No. 1-A, Hot Springs County, 28-43-91, dr 1566 ft; No. 1, Park County, 9-46-101, dr 110 ft; No. 1, Fremont County, 10-28-92, dr 3364 ft; No. 1-C, Fremont County, 15-5-1, sd 1752 ft; No. 1-G, Fremont County, 27-1-1, dr 110 ft. Carter Oil Co.'s No. 2-R, Billy Creek, 17-48-82, dr 2717 ft; No. 1, Horse Creek, 35-17-70, dr 100 ft. Producers & Refiners Corp.'s No. 1, Crook's Gap, 18-23-93, dr 1212 ft; No. 2, Crook's Gap, 13-28-93, sd 3340 ft; No. 3, Crook's Gap, 13-28-93, dr 2185 ft; No. 1, Baxter Basin, 11-19-104, bldg rig; No. 1, Greenville, 28-21-86, dr 300 ft; No. 7, Hudson, 30-2-2, dr 1800 ft; No. 5, Wertz, 7-26-89, dr 2872 ft; No. 1, Murphy dome, 8-43-91, dr 1290 ft; No. 2, Clay Basin, 22-3-24, dr 5282 ft. Utah Oil Refining Co.'s No. 1, Hot Springs County, 5-42-90, dr 780 ft. Continental Oil Co.'s No. 1, Geary dome, 32-34-77, ur 2400 ft, td 4797 ft.

COLORADO

COMPLETION

Arapahoe County—
A. A. Rollerstone Co. No. 1..... * 1651

DRILLING REPORT

Chesapeake Oil Co.'s No. 1, Prowers County, 30-27-45, dr 4762 ft. Union Oil Co. of California's No. 1, Moffat County, 31-5-98, dr 3869 ft. A. A. Rollerstone Co.'s No. 1, Larimer County, 6-10-69, cas cemented 1901 ft; No. 1, Arapahoe County, 1-5-65, abn 1651 ft. Texas Production Co.'s No. 1-D, Mofft County, 18-6-86, 400 bbl well in shale at 2580 ft; No. 1-E, Rio Blanco County, 27-3-94, lcn. Shaffer Oil & Refining-Yarg Producing & Refining Co.'s No. 1, Moffat County, 19-5-93, dr 1375 ft. W. H. Hall Interests' No. 1, La Plata County, 13-33-12, 900 ft oil in hole, td 3470 ft. Gypsy Oil Co.'s No. 1, Garfield County, 5-8-102, fsh 3375 ft. Franklin Interest's No. 1, Archuleta County, 28-35-2, dr 262 ft. Continental Oil Co.'s No. 1, Jackson County, 8-25-25, dr 3072 ft. Southeastern Colorado Oil & Gas Co.'s No. 1, Las Animas County, 28-28-52, abn 1402 ft. "54" Oil Co.'s No. 1, Fort Collins, 5-7-68, dr 3598 ft. Lyons Oil Co.'s No. 1, Boulder County, 33-3-70, small flow gas, td 1006 ft.

NEW MEXICO

Capital Oil Co.'s No. 1, Roosevelt County, 4-1-30, dr 1745 ft. Ute Consolidated Oil Co.'s No. 1, Ute Reservation, 24-31-15, sd 2005 ft. Marland Oil Co.'s No. 1, San Miguel County, 3-13-28, dr 4900 ft. Eureka Oil Synd.'s No. 1, Colfax County, 10-29-24, co 4068 ft. Texas Production Co.'s No. 1, Chaves County, 29-17-18, ur 634 ft. Union Oil Co. of California's No. 2, Colfax County, 25-31-18, dr 1000 ft. Southwestern Development Co.'s No. 1, San Juan County, 24-21-11, dr 100 ft. Maljamar Oil & Gas Co.'s No. 1, Lea County, 21-17-32, dr 4135 ft. Duke City Oil Co.'s No. 1, Santa Fe County, 28-10-10, dr 1032 ft. Congress Oil Co.'s No. 1, San Juan County, 34-29-11, dr 1414-16 ft.

UTAH

Marland Oil Co.'s No. 1, Green River, 35-31-16, dr 2660 ft. Midwest Exploration Co.'s No. 1-S, Cane Creek, 36-36-20, rig completed; No. 1-S, Shafer, 17-27-20, dr 1400 ft; No. 1-S, Cane Creek, 6-27-21, dr 2875 ft. Utah Oil Development Co.'s No. 1, Grand County, 8-26-22, dr 1010 ft. Boulder Knoll Oil & Gas Co.'s No. 1, San Juan County, 17-34-24, dr 100 ft.

PERMITS GRANTED FOR NEW WELLS

Weekly Comparison of New Wells

Following is a condensed table giving a comparison of permits or locations made for new wells during the past year in Kansas, Oklahoma, Arkansas, Louisiana, Texas and California:

	Dec. 1925	Jan. 1926	Feb. 1926	Mar. 1926	Apr. 1926	May 1926	June 4	June 11	June 18	June 25	July 2	July 9	July 16
Arkansas	58	63	80	106	124	103	17	34	15	34	28	26	15
California	125	140	126	116	135	79	16	15	20	18	17	15	15
Louisiana	54	87	104	145	150	109	30	22	24	31	30	25	28
Kansas	124	165	144	160	170	156	57	39	30	35	40	..	32
Oklahoma	329	391	322	419	593	471	107	106	93	105	107	128	74
Texas	865	743	756	817	1070	941	265	267	297	339	257	255	236
Mountain States	...	...	...	...	...	113	35	30	27	32	33	30	26
Total	1555	1589	1532	1763	2242	1972	527	513	506	594	512	*479	426

*Does not include Kansas.

KANSAS

Cowley County—Roth & Faurot No. 1 Sincley, northwest corner of the southeast of 20-31-5. J. R. Hull No. 3 School land, southwest corner of the northwest of the southeast of 15-32-4; No. 4 School land, northeast corner of the northwest of the southeast of 15-32-4; No. 2 Wallace, southeast corner of the northeast of the southwest of 15-32-4. Marland Oil Company No. 2 Graham, southeast corner of the southwest of the northeast of 15-32-4; No. 3 Graham, southwest corner of the southeast of the northeast of 15-32-4; No. 1 School land, northwest corner of the southwest of the southeast of 15-32-4. Tidal Oil Company and Skelly Oil Company No. 1 Wallace, northeast corner of the southeast of the southwest of 15-32-4.

Elk County — Gillespie No. 2 Rorick, old

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well deepened, northeast corner of the southeast of the southeast of 22-31-10. Landon et al No. 1 Walker, northwest corner of 34-31-10.

Greenwood County—Empire Gas & Fuel Co., No. 1 Atyeo, old well deepened, northeast corner of the northwest of 6-22-10; No. 11 Atyeo, northeast corner of the southwest of 6-22-10; No. 3 Jones, northwest corner of the southeast of 6-22-10; No. 11, Fromme, northeast corner of the southeast of the northwest of 14-22-11; No. 9 Hinds, southwest corner of the northeast of the southwest of 11-22-11; No. 5 Fankhauser, southeast corner of the southwest of the southeast of 4-22-12. Manhattan Oil Corporation et al No. 1 McDowell, southeast corner of the northwest of the northeast of 13-23-8. Empire No. 5 Thrall, southwest corner of 29-23-10. Simmons et al No. 5 Tiffany, southwest corner of the northwest of the southwest of 9-23-11. The Texas Company No. 2 Fogle, southeast corner of the northwest of the northwest of 16-23-11; No. 3 Fogle, southwest corner of the northwest of the northwest of 16-23-11. Darby Oil Company et al No. 2 McGilvray, southeast corner of the northeast of the northeast of 17-23-11. McGinnis et al No. 8 "B" Wiggins, northwest corner of the southwest of the southwest of 30-24-11. Beacon Oil Company No. 5, Weirshing, center of the northwest of the northwest of 24-26-9. Spencer et al No. 1 Edwards, northeast corner of the northeast of the southeast of 21-26-10. Hibbard et al No. 1 Edgar, northeast corner of the southwest of 2-28-8.

Kingman County—Carter Oil Company No. 3 Richardson, northwest corner of the northeast of the southeast of 16-27-7w.

Lyon County—Sheedy et al No. 12 Atyeo, southeast corner of the northwest of the southwest of 31-21-10; No. 13 Atyeo, northeast corner of the southwest of the southwest of 31-21-10.

Sumner County—Roxana Petroleum Corporation No. 1 Mason, southeast corner of the northwest of 25-31-2; Rutter 1, southwest cor of the northeast of 25-31-2e; No. 1 Van Sickle, northwest corner of the southeast of 25-31-2e.

OKLAHOMA

Carter County—Magnolia Petroleum Company No. 3 W. Wison, northeast corner of 21-2s-2w. Amerada Petroleum Corporation No. 21 Clay, northeast corner of the southeast of the southeast of the northeast of 28-5s-1e.

Creek County—Mannford Development Co., No. 1 Walker, southeast corner of the southwest of 3-19-8. Gled Oil Company No. 4 Ross, twin, northwest corner of the northeast of the northwest of the southwest of 13-19-8. J. B. Grieves No. 6 Lowe, center of the north of the northwest of the northeast of 13-19-8. Burlengane and Sharp No. 8 Peters, southwest corner of the southeast of the southwest of the northwest of 13-19-8, twin. Shaffer Oil & Refining Company No. 1 Jones, northeast corner of the northwest of the southwest of 26-18-7. Magnolia Petroleum Company No. 3 Derrisaw, northwest corner of the southwest of the southeast of 32-18-7. Shaffer No. 10 Drumright, southeast corner of the southwest of 32-18-7. Southwestern Petroleum Company No. 3 Bruner, center of the east line of the northwest of the northeast of 27-17-8. Aztec Oil Company No. 4 White, northeast corner of the northwest of the northeast of 11-14-8. Skelly Oil Company No. 15 McKan, northeast corner of the northwest of the southwest of 12-14-8. Roxana Petroleum Corporation No. 1 Smith, northwest corner of the southeast of 18-19-9. Regal Oil Company No. 28 Bigpond, center of the north line of the southwest of 6-18-12. Sunray Oil Company et al No. 7 Sango, southwest corner of the southeast of the northwest of 6-18-12. Pontiac Oil Company No. 1 Fulson, center of the north line of the northwest of the southwest of 13-17-10. O. M. Irelan No. 8 Freeman, southeast corner of 18-17-11. Misener and Reesman No. 1 Broadnox, northwest corner of 16-17-11. Shaffer Oil & Refining Company No. 1 Strip, old well deepened, southwest corner of the northwest of 27-16-9. Rolland Oil Company No. 1 Allen, northeast corner of the southwest of 6-15-10.

Garfield County—Roxana Petroleum Corporation No. 28 Schroeder, southeast of the southwest of the southeast of the southwest of 18-22-3w.

Garvin County—The Texas Company No. 13 Deryden, southwest corner of the southeast of the northeast of 17-1n-3w.

Hughes County—Transcontinental Oil Company No. 11 Harjo, southeast corner of the southwest of 26-9-9. W. R. Ramsey No. 2 Jackobs, northeast corner of the northwest of the northeast of 14-7-8.

Kay County—Comar Oil Company No. 12 Duncan, old well deepened, southeast corner of the northwest of the southwest of 21-29-1w. Philmack Oil Company No. 1 Coyle, southwest corner of 21-25-1w. Gypsy Oil Company No. 1 Hack, northeast corner of the northwest of the northeast of 32-25-1w.

Okfuskee County—Darby Petroleum Company et al No. 1 Yarhola, center of the south line of the north half of the southeast of 21-13-10. Gypsy Oil Company No. 2 Harjo, northwest corner of the northeast of the southeast of 35-12-12.

Okmulgee County—Devonian Oil Company No. 2 Peloche, center of the east line of the northeast of the southeast of 23-15-12. C. E. Campbell, No. 2 Blair, southwest corner of the northeast of 23-14-11, twin. W. B. Pine No. et al No. 2 Crossland, southwest corner of the northeast of 23-14-11, twin. W. S. Pine No. 1 Burton, northeast corner of the southwest of the northeast of 4-14-12. Campbell et al No. 1 Smith, southeast corner of the northwest of the northeast of 4-14-12. J. H. Rebold No. 1 Unallotted, southwest corner of the southeast of the southwest of 25-14-12. Ralco Oil Company No. 7 Been, center of the west line of the northeast of the northeast of 33-12-12. J. G. Hass et al No. 14 T. Colbert, northeast corner of the southwest of the northwest of 15-14-14. Clarion Oil Company No. 7 B. Wright, northeast corner of the southwest of the southwest of 22-14-14. Cal Cul Oil Company No. 5 L. Doyle, northwest corner of the southeast of the southwest of 15-13-14, old well deepened. W. B. Pine No. 4 W. Manuel, center of the south line of the southeast of the southeast of 10-12-13. L. C. Wheeler No. 2 J. Brown, northeast corner of the southeast of the southwest of 1-11-13.

Osage County—Carter Oil Company No. 13, northeast of the northwest of the southwest of 9-26-6. Phillips Petroleum Company No. 10, 10, southeast of the northwest of the southeast of 20-26-6; No. 11, southwest of the northeast of the southeast of 20-26-6; No. 12, southeast of the northeast of the southeast of 20-26-6; No. 1, southwest corner of the 21-26-6; No. 2, southeast of the southwest of the southwest of 21-26-6; No. 3, southwest of the southeast of the southwest of 21-26-6; No. 7, northwest of the southeast of the northwest of 21-26-6. Carter Oil Company No. 2, southwest of the northwest of the southeast of 6-24-8; No. 3, northeast of the southwest of the southeast of 6-24-8. C. F. Lake et al No. 1, southeast of the northeast of the southwest of 6-24-8. Marland Oil Company and Agents No. 9, southeast corner of the northeast of 16-24-8. Atlantic Oil Producing Company No. 1, northeast of the southwest of the northeast of 19-24-8. Barnsdall Oil Corporation No. 5, southwest of the southeast of the southwest of 1-24-11. Ray Branstetter No. 2, southeast corner of the southwest of 23-23-10. Kewanee Oil & Gas Company No. 14, northwest corner of the southeast of the northwest of the northeast of 5-22-10. Gillespie and Sons No. 6, center of the south line of the northeast of 5-20-12.

Pawnee County—Tidal Oil Company No. 8 Arnold, old well deepened, northeast corner of the southeast of the southwest of 3-20-8.

Seminole County—Gypsy Oil Company No. 2 Carter, southwest corner of the northeast of the northwest of 24-9-6. Barnsdall Oil Corporation No. 4 Carter, northwest corner of the southeast of the northwest of 24-9-6. Independent Oil & Gas Company No. 2 McDaniel, northwest corner of the northeast of the southeast of 7-9-8, corrected. Plover Drilling Co., No. 3 McDaniel, southwest corner of the southeast of the southeast of 7-9-8. W. R. Ramsey No. 2 Salinda, old well deepened, northeast corner of the northwest of the southeast of 31-8-8. Independent Oil & Gas Company and Continental Oil Company No. 4 J. Long, northwest corner of the southeast of 32-8-8. Independent Oil & Gas Company and Atlantic Oil Producing Company No. 6 Simon, southwest corner of the northwest of the southwest of 5-7-8.

Tulsa County—Holmes et al No. 1-A Doyle, center of the northeast of the southwest of 16-19-10. Continental Oil Company No. 8 Postoak, southeast corner of the northwest of 29-19-12. Linden et al No. 1 Norter, southwest corner of 10-19-14. Jolly-ogg Oil Company No. 1-A Harry, northeast corner of the southeast of the southeast of 5-16-13. Keener Oil & Gas Company No. 6 Sharp, twin, southeast corner of the northwest of 10-16-13. Shaffer Oil & Refining Company No. 5 McCoy, northwest corner of the southwest of the northwest of 18-16-14.

Wagoner County—R. E. Perry No. 1 Robins, northeast corner of 11-17-16. Schlingman, Trustee No. 5 M. White, southwest corner of the northeast of 25-17-16.

CALIFORNIA

Devils Den—Devils Den Products Co.'s No. 5, 23-25-18.

Huntington Beach—The United Oil Co.'s Pacific 2, 2-6-11. Sun Oil Co.'s No. 10, 2-6-11.

Long Beach—J. D. Lauricella's No. 1, 20-4-12.

Midway—Standard Oil Co.'s No. 12, 21-32-24. Standard Oil Co.'s No. 36, 3-32-24.

Richfield—Nugent Drilling Co.'s No. 1, 27-3-9. Union Oil Co.'s Coyle 7, 29-3-9.

Rosecrans—Barnsdall Oil Co.'s O'Dea 14, 18-3-13.

San Luis Obispo County—George Mapes' Holdings' No. 1, 19-10-24.

Sonoma County—Shell Co.'s Murphy 1, Lot 270-Rancho Petaluma.

Sunset—Standard Oil Co.'s No. 34, 31-12-23.

Ventura—Associated Oil Co.'s V. L. & W. 1, 26-3-23. Associated Oil Co.'s Lloyd 2-A, 27-3-23.

Ventura County—Standard Oil Co.'s Camarillo 1, 29-2-20.

MOUNTAIN STATES

WYOMING

Union Oil Co. of California's No. 1, NE¼ 9-46-101. Producers & Refiners Corp.'s No. 1, 28-21-86; No. 1, 11-19-104. Ohio Oil Co.'s No. 3, 8-51-100. Carter Oil Co.'s No. 1, SW¼ 5-48-90w. Pilot Butte Oil & Gas Co.'s No. 1, Lot 4, 27-3-1.

COLORADO

Continental Oil Co.'s No. 573, NE¼ 1-29-70. Texas Production Co.'s No. 1, SE¼ 18-6-86; No. 2, NW¼ 31-2n-102; No. 1, 27-3n-94.

NEW MEXICO

Ohio Oil Co.'s No. 1, NW¼ 35-17-32. D. T. McDonald's No. 1, NE¼ 22-18-34. Skelly Oil Co.'s No. 1, NE¼ 22-17-31. Caprock Oil Co.'s No. 1, SE¼ 11-16-32. B. Sullivan's No. 1, SE¼ 1-18-31.

UTAH

Utah-Southern Oil Co.'s No. 1, 16-28-20. Empire Gas & Fuel Co.'s No. 1, 4-30-21.

MONTANA

Loy Oil Co.'s No. 1, 20-36-22. Hardrock Oil Co.'s No. 2, NE¼ 26-35-2. California Co.'s No. 7, SW¼ 26-35-2. Dakota-Montana Oil Co.'s No. 16, SW¼ 31-35-1. Cope Oil Co.'s No. 1, NE¼ 35-35-2. Wenoah-Sunburst Synd.'s No. 1, SE¼ 8-34-2. Homestake Oil Co.'s No. 14, NE¼ 36-35-2. Ostland Oil Co.'s No. 1, NW¼ 12-35-3. Munger-Barr Interests' No. 4, NE¼ 35-35-2.

LOUISIANA

Acadia Parish—The Texas Co., Ricou-Brewster Bldg., Shreveport, Rayne Heirs 1, 30-9s-2w, 500 ft southwesterly along west line of section from NW corner and 500 ft southeasterly at right angle.

Caddo Parish—Bayou State Oil Corp., 1008 Slattery Bldg., Shreveport, Hoss 28, 24-22n-15w, 300 ft N and 240 ft W of SE corner of NW¼ of SW¼.

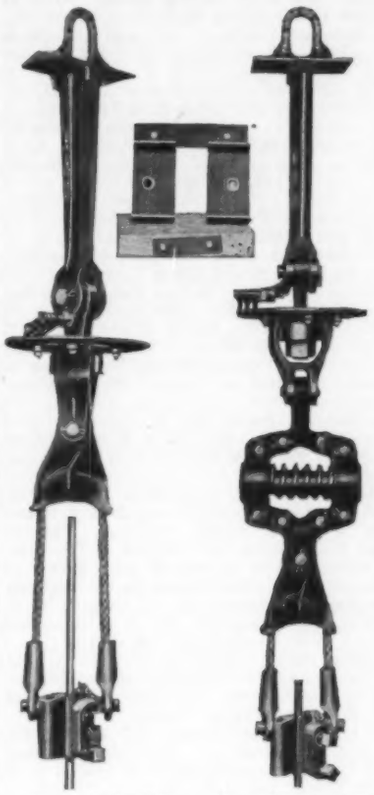
Calcasieu Parish—The Texas Co., Shreveport, Gray C-2, 32-10s-12w, 666 ft S and 50 ft W of NE corner of SE¼. Vinton Petroleum Co., Orange, Texas, Grey-Rescue 21, 4-11s-12w, 497 ft S and 570 ft W of NE corner of section.

Claiborne Parish—Gulf Refg. Co. of La., Ardis Bldg., Shreveport, Crichton 1, 35-19n-8w, 300 ft N and 380 ft E of SW corner of SE¼.

East Feliciana Parish—E. F. Simms, 901 Chronicle Bldg., Houston, Texas, McKneeley 1, Twp. 4-s, Rge. 2-w, 186 ft E along South line of Parish from intersection of same with East bank of Thompson's Creek thence 1211 ft N at right angle.

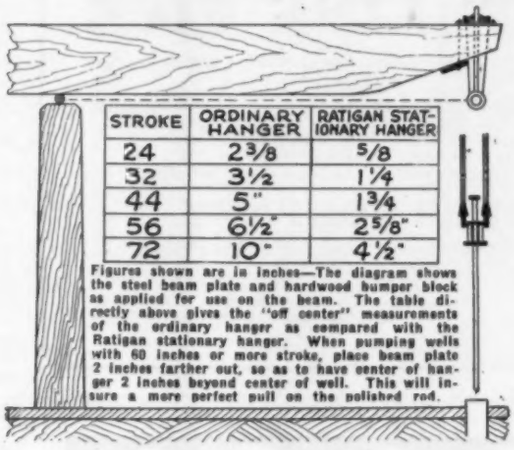
Grant Parish—Tunica Petroleum Co., 901 Commercial Bank Bldf., Shreveport, L. & A. Oil Co. 5, 16-8n-1e, 200 ft N and 200 ft E of SW corner of SE¼ of NE¼.

La Salle Parish—Keen & Woolf Oil Co., Commercial Bank Bldg., Shreveport, Collins 1, 7-10n-2e, 200 ft S and 200 ft W of NE corner of SW¼ of NW¼. Hope Oil Company, P. O.



No. 13 Sucker Rod Rotor and No. 6 Polish Rod Grip

No. 15 Sucker Rod Rotor with No. 1 Shock Absorber attached and No. 6 Polish Rod Grip.



STROKE	ORDINARY HANGER	RATIGAN STATIONARY HANGER
24	2 3/8	5/8
32	3 1/2	1 1/4
44	5"	1 3/4
56	6 1/2"	2 5/8"
72	10"	4 1/2"

Figures shown are in inches—The diagram shows the steel beam plate and hardwood bumper block as applied for use on the beam. The table directly above gives the "off center" measurements of the ordinary hanger as compared with the Ratigan stationary hanger. When pumping wells with 60 inches or more stroke, place beam plate 2 inches farther out, so as to have center of hanger 2 inches beyond center of well. This will insure a more perfect pull on the polished rod.

The purpose of the steel beam plate is to insure a firm and level surface for the flat top hanger. The purpose of the bumper block is to force the hanger OUT on the up stroke, resulting in a more perfect pull at all times.

Ratigan Hangers are all interchangeable and may be used with any piece of Ratigan equipment without adjustment. All wearing joints are rocker joints, which means minimum wear and maximum life. There is nothing to oil.

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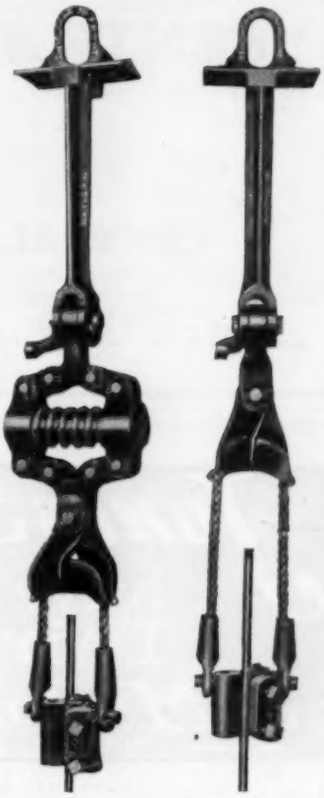

No. 1 Shock Absorber attached to No. 1-A Hanger, and No. 6 Polish Rod Grip

No. 1-A Hanger with Adapter fitting and No. 6 Polish Rod Grip

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Box 588, Alexandria, Urania 3, 19-10n-2e, 150 ft S and 250 ft W of NE corner SW¼ of SW¼ of SW¼. H. L. Hunt, Inc., El Dorado, Ark., Griswold 1, 2-9n-1e, 220 ft N and 296 ft E of SW corner of NW¼ of SW¼; Tullos Heirs, 14, 26-10n-1e, 750 ft S and 1800 ft E of NW corner of section; Tullos Heirs 15, 26-10n-1e, 300 ft N and 150 ft E of SW corner of NE¼ of NW¼; Urania Lbr. Co. 1, 2-9n-1e, 220 ft N and 296 ft E of SW corner of NE¼ of SW¼. Louisiana Oil Ref. Corp., Shreveport, Tremont Lbr. Co. B-14, 25-10n-1e, 150 ft N and 150 ft W of SE corner of NW¼. Natural Gas & Fuel Corp., El Dorado, Ark., Urania F-3, 24-10n-1e, 200 ft N and 200 ft W of SE corner of NE¼ of SE¼; Urania K-7, 19-10n-2e, 350 ft N and 250 ft E of SW corner of SE¼ of SW¼. Tunica Pet. Corp., 901 Commercial Bank Bldg., Shreveport, L. & A. Oil Co. 6, 22-9n-2e, 300 ft S and 300 ft E of NW corner of section. Vacuum Oil Co., 214 Gulf Bldg., Houston, Texas, La. Central 1, 13-10n-2e, 1320 ft S and 1320 ft W of NE corner of section.

Natchitoches Parish—R. E. Davidson, 913 Giddens-Lane Bldg., Shreveport, J. A. Williams 1, 31-8n-5w, 990 ft W and 330 ft N of SE corner of section.

Ouachita Parish—G. E. Gordon, Tr., Monroe, Veatch & Thomas 1, 24-18n-4e, 2046 ft S and 903 ft W of NE corner of section. Peerless Carbon Co., Monroe, R. L. Moore 3, Twp. 20n, Rge. 4e, 2145 ft N and 812 ft W of corner of sections 26-49-25. The Palmer Corp., 1100 City Bank Bldg., Shreveport, J. T. Cole Heirs 3, 43-19n-4e, S 21 degrees E, 585 ft N 69 degrees E, 585 ft NW corner of S½ of section.

Rapides Parish—Minnesota Oil Corp., 511 McKnight Bldg., Minneapolis, Minn., Wettermark 1, 7-5n-3w, 600 ft S and 600 ft W of NE corner of SW¼ of SW¼.

St. Martin Parish—Bowie Oil & Gas Co. Inc., 507 Carondelet St., New Orleans, Regneaud 3, Lot 113-9s-5w, 325 ft S and 57 ft E of NW corner Lot 113.

St. Landry Parish — Terrebonne Gas Co., Inc., Houma, Whitman Lbr. Co. 1, 13-4s-7e, 110 ft S and 320 ft W of NE corner of SE¼.

Tensas Parish—M. S. Rhodes, et al, Ft. Worth, Texas, Somerset 1, 29-14n-12e, 250 ft W and 700 ft N of center of section.

Winn Parish—O. W. Clark, P. O. Box 75, Tullos, Harper 4, 26-10n-1e, 1016 ft S and 198 ft E of NW corner of NW¼ of NE¼; Harper 5, 26-10n-1e, 937 ft S and 600 ft E of NW corner of NW¼ of NE¼.

Vacuum Office at Eastland

Eastland, Texas.—The Vacuum Oil Compauy has established a field office here to resume active operatoins in the Eastland-Ranger district, paying particular attention to the shallow pay horizons, while it is also planned to acquire settled production. Ed. F. Horrigan, formerly scout for The Texas Company in the Cisco district, has been placed in charge of the leasing and scouting department, and O. A. Disney, formerly with the Waite Phillips Company, will be in charge of geological work in the district.

Dave Donoghue, chief geologist and head of the land department of the Texas Pacific Coal & Oil Company, is back at his office in Fort Worth after a trip over parts of the Oklahoma oil territory.

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ARKANSAS

Columbia County—Gordon-Folwell-Dickson Synd.'s Jones 5, 1-16-30, NE corner section.

Ouachita County—Magnolia Pet. Co.'s Watson 4, 31-15-19, SEc NW¼ SW¼.

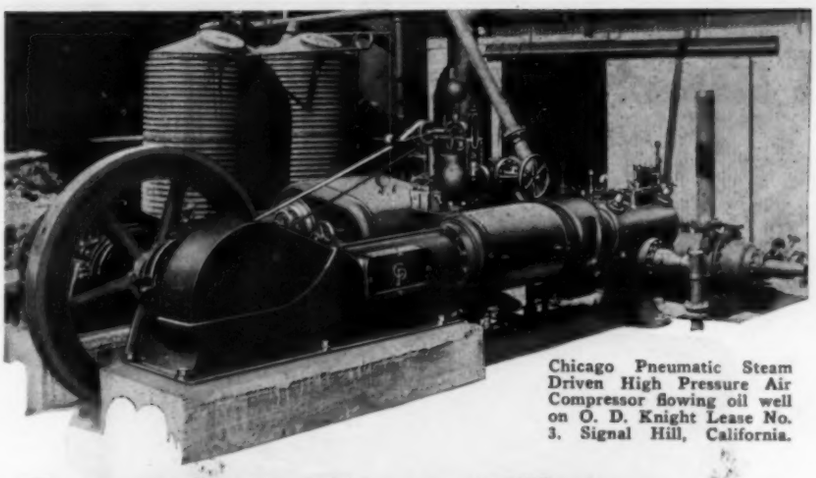
Union County—Belmont et al's Hollis 1, 13-18-15, SWc NW¼ NE¼. Gulf Ref. Co.'s T. C. Murphy 22, 9-16-15, 1520 ft S and 660 ft W of NEc of section; Primm 2, 21-17-16, 1120 ft S and E of NWc of section; Primm 3, 21-17-16, 200 ft S and E of NWc of section. Lion O. & R. Co.'s Mitchell A-5, 17-17-16, NEc SE¼ NE¼; Mitchell B-1, 17-17-16, NEc SE¼ SE¼; Mitchell C-2, 17-17-16, SWc SE¼ SE¼. Magnolia Pet. Co.'s Harrell 7, 4-17-16, center of east line NE¼ SE¼. Mathews et al's Lewis 1, 14-19-12, SWc SW¼ NW¼. J. L. Meek's Milner 1, 15-17-16, SWc NW¼ SE¼. Rovenger Oil Corp.'s Harrell 4, 15-17-16, SEc NW¼ SW¼. Southern Crude Oil Purch. Co.'s Wells B-4, 15-16-15, 150 ft S and 330 ft E of NWc NE¼ NW¼. Wingfield et al's Slaughter B-3, 3-17-16, center of west line NW¼ SW¼.

TEXAS

Archer County—Gulf Production Co., Fort Worth, M. Kelly 1, S 11, BBB&C Ry sur, 150 ft to S and E lines. Mrs. H. B. Wallace, Wichita Falls, Kemp & Kempner 54, S. P. Ry No. 2 sur, 565 ft NE No. 36. Atlantic Oil Prod. Co., Magnolia Bldg., Dallas, S. E. Oldham 4, E. Hubble sur, 300 ft W No. 2. Texhoma Oil & Ref. Co., Wichita Falls, L. J. Kunkel 6, B 2, T. McCoy sur, 150 ft to W and 750 ft to S line. H. S. Griffin 1A, B 4, Spillers sur, 150 ft to N and E lines; W. B. Hamilton 14, B 23, D.C.S.L. sur, 450 ft to E and 406 ft to S line. Murchison & Fain Oil Co., Wichita Falls, C. F. Kunkel 2, B 4, BBB&C Ry sur, 150 ft to N and 450 ft to E line; 3, same sur, 450 ft to E and 150 ft to S line. Shaw & Rathke, Wichita Falls, L. F. Wilson B8, Amer. Trib. sur, 300 ft W No. 7. Magnolia Petroleum Co., Dallas, J. Richardson 1, J. T. Richardson sur, 150 ft to N and E lines; T. Parrish 10, S 26, B 1, H&TC Ry sur, 300 ft W No. 6; 11, same sur, 300 ft E No. 5; Cowden-Portwood 13, 1581 TE&L sur, 300 ft NE No. 8; A. J. Lowe 15, B 2, I. Holman sur, 300 ft N No. 10. Barnes, Alexander & Peckham, City Nat. Bank Bldg., Wichita Falls, W. E. Allison 1, S 17, H&TC Ry sur, 150 ft to S and W lines. Tidal Oil Co., W. T. Waggoner Bldg., Fort Worth, A. D. Thompson 2, B 5, Amer. Trib. sur, 550 ft to N and 150 ft to W line. T. H. Jones, First Nat. Bank Bldg., Wichita Falls, J. H. Turbeville 1, J.C.S.L. sur, 565 ft to N and 576 ft to W line. Pandem Oil Corp., Wichita Falls, W. H. Thomas 4, S 166, B 5, N. Thomas sur, 300 ft S and 450 ft E of No. 3; Abercrombie-Taylor 1, B 81, Club Ranch sur, 1429 ft to E and 150 ft to S line; L. L. Hudson 2, B 80, same sur, 300 ft E No. 1; 3, same sur, 300 ft W No. 1. Shasta Oil Co. & Apple, Brandeberry & Grebin, Wichita Falls, G. F. Parsons 1, EL&R sur, 130 ft to N and W lines. Marland Oil Co., W. T. Waggoner Bldg., Fort Worth, W. H. Thomas 9, N. Thomas sur, 150 ft to W and 1060 ft to S line. Richardson Oil Corp., Staley Bldg., Wichita Falls, Turbeville 1, B 148, R. Carson sur, 2083 ft to W and 150 ft to N line. Cook & Reeder, Harvey-Snider Bldg., Wichita Falls, A. M. Kunkel 2, B 3, BBB&C Ry sur, 300 ft E No. 1. Tidal Oil Co., W. T. Waggoner Bldg., Fort Worth, L. H. Farmer 1, B 13, W. C. Winters sur, 150 ft to N and W lines. Cosden & Consolidated Oil Co., Wichita Falls, F. Jehlik 1, B 131, Jas. Harris sur, 1212 ft to E and 850 ft to S line. M. & V Oil Co., Box 493, Wichita Falls, A. M. Kunkel 8, S 3, BBB&C Ry sur, 375 ft E No. 1; 7, same sur, 150 ft to S and E lines. Empire Gas & Fuel Co., Staley Bldg., Wichita Falls, J. R. Parkey 1, S 2, S. P. Ry sur, 1170 ft to N and W lines

Angelina County—Flanigan Drilling Co., Box 547, Lufkin, J. M. Singleton 2, A. Varrilla sur, 160 ft to S and E lines.

Brown County—Clark & Kimbell, Cross Cut, W. M. Armstrong 1, No. 151 P. Curlong sur, 155 ft to N and W lines. Texas Co., Cisco,



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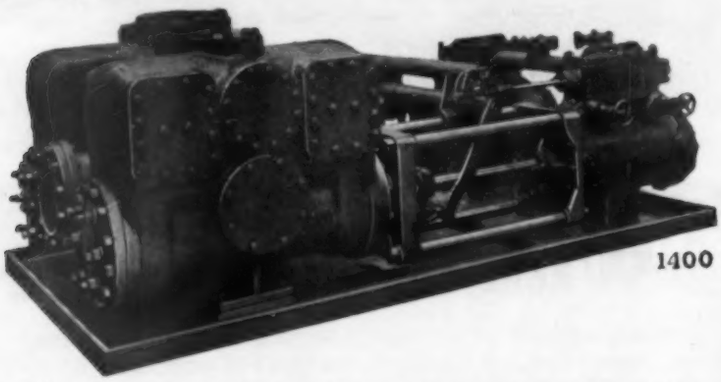

This is done to protect both the customer and ourselves. Four or five years ago, "hot oil" meant a temperature of around 200 or 300° F. Then it started upwards. Now it means any temperature from say 300 to 1000° F.

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Bexar County—Geo. E. Ginter, San Antonio, San Antonio Cotton Mills 10, 400 ft to N line.

Callahan County—C. O. Moore, Cross Plains, J. W. McDaniel 16, B 56, C.C.S.L. sur, 300 ft W No. 11. Graham & Lash, 1208 Ave. M., Cisco, E. J. Eubanks 8, S 4, D&D Asy sur, 300 ft W No. 4. Amerada Petroleum Corp., Cisco, M. L. Lone 1, W. G. Anderson sur, 800 ft to W and 240 ft to N line, 2, same sur, 300 ft E No. 1. Texas Co., Cisco, G. H. Clifford 33, 3151 TE&L sur, 1322 ft to W and 1165 ft to S line. J. A. Jones, Moran, A. W. Warren 8, 2039 TE&L sur, 825 ft to N and 450 ft to W line. C. A. Waid, Cisco, R. D. Williams 4, 2269 TE&L sur, 450 ft to S and E lines. W. R. Andrews et al, Cisco, R. D. Williams 57, 2973 TE&L sur, 150 ft to S and E lines. Townsend & Forster, Kirby Bldg., Dallas, J. Isenhour 1, S 5, GC&SF Ry sur, 750 ft to N and 178 ft to W line. Williams & Murphy, Cisco, C. Ramsey 4, 3156 TE&L sur, 300 ft S No. 3; 6, same sur, 368 ft W No. 2. Putnam & Sissell, 306 W. Second St., Cisco, W. H. Ramsey 2, 2282 TE&L sur, 450 ft to W and 150 ft to S line.

Coleman County — Kirby Petroleum Co., Houston, G. E. Younglove 2, J. W. Hicks sur, 435 ft N No. 1. B. I. Carpenter, Box 171, Cisco, J. C. Dibrell 1, S. 18, F. M. Bowan sur, 3300 ft to N and E lines. Amerada Petroleum Corp., Cisco, J. W. Harris 38, No. 160 J. Saunders sur, 376 ft NE 27, 39, same sur, 300 ft NE No. 10; 40, same sur, 392 ft NE No. 8, 41, same sur, 310 ft NW No. 14, 42, same sur, 392 ft NE No. 14, 43, same sur, 1675 ft NE No. 17, 44, same sur, 600 ft SE No. 19, 45, same sur, 330 ft NE No. 23, 46, same sur, 320 ft SW No. 9, 51, same sur, 337 ft W No. 19, 61, same sur, 2060 ft N No. 16. Archie Shaw, Burkett, W. T. Burns 10, No. 168 A. Wickson sur, 300 ft W No. 4. Brown & O'Donohoe, City Nat. Bank Bldg., Wichita Falls, Beddy 1, B 47, HT&B Ry sur, 450 ft E and 150 ft to S line. M. L. Richards, Wichita Falls, P. Berry 1, P. Gilliland sur, 1650 ft to N and 150 ft to W line.

Crane County—Independent Oil & Gas Co., F & M Bank Bldg., Fort Worth, A. Taylor 2, S 6, H. T. Sapp sur, 660 ft W No. 1; 3, same sur, 660 ft S No. 1; 4, same sur, 660 ft E No. 1, 5, same sur, 660 ft N No. 1, 6, same sur, 330 ft to E and 754 ft to S line. Texas

Co., Cisco, E. King 2, S 85, B X, CCSD&RGNG sur, 330 ft to S and E lines.

Carson County — American Ref. Co., Inc., Wichita Falls, S. B. Burnett 9, S 115, B 5, I&GN Ry sur, 330 ft to N and W lines. Marland Oil Co., W. T. Waggoner Bldg., Fort Worth, S. B. Burnett 5A, S 116, B 2, I&GN Ry sur, 330 ft to N and E lines.

Cooke County — Jno. W. Hooser, Thomas Bldg., Dallas, A. Hyman 3, T. J. Moss sur, 150 ft to N and E lines; 4, same sur, 316 ft E No. 3; J. A. Dennis 1A, J. Moss sur, 780 ft to E and 150 ft to S line. Vacuum Oil Co., Gulf Bldg., Houston, W. M. Kitchens 1, B 1248, F.C.S.L. sur, 530 ft to N and 155 ft to W line.

Comanche County — C. O. Moore, Cross Plains, N. J. Coburn 1, J. P. Stephenson sur, 150 ft to W and 2500 ft to S line. O. C. Chapin, 910 Austin St., San Antonio, C. V. Bryson 1, No. 935 same sur, 1000 ft to S and E lines.

Chambers County—Roxana Petroleum Corp., Houston, Lake Charlot 1, State Permit L. Charlot sur, NE cor of Lake lease.

Caldwell County—Magnolia Petroleum Co., Dallas, W. Branyon 3, N. Beaville sur, 200 ft to SW and 600 ft to SE line.

Eastland County—A. S. Hatch, Daniels Hotel, Cisco, J. M. Ramsey 2, S 9, B 2, BBB&C Ry sur, 150 ft to N and E lines. Humble Oil & Ref. Co., Cisco, S. H. Parsons 4, B 53, McL.C.S.L. 286 ft S No. 3; 5, same sur, 331 ft N No. 2; 6, same sur, 370 ft W No. 2. Chesnut & Smith, Eastland, W. I. Allison 1, S 2, B 2, H&TC sur, 300 ft to S and E lines. Gulf Prod. Co., Fort Worth, J. D. Parsons 6, S 53, McL.C.S.L. sur, 150 ft to E and 796 ft to S line.

Erath County — G. A. Davisson, Box 778, Eastland, J. J. Krousman 1, J. Sassaman sur, 455 ft to N and 369 ft to E line.

Gray County—Cranfill Bros., Wichita Falls, Noble & Mackechney 1, S 10, B A6, H&GN sur, 660 ft to S and E lines. Marland Oil Co., W. T. Waggoner Bldg., Fort Worth, Benton 1, S 63, B 3, I&GN Ry sur, 330 ft to N and W lines.

Galveston County—Sun Oil Co., Beaumont, J. W. Lockhart 9, M. Dunman sur, NW cor.

Grimes County—Moraco Oil Corp., 910 Ruth Street, Houston, G. W. Dodd 1, T. Jones sur, 640 ft to E and 890 ft to S line.

Guadalupe County—Magnolia Petroleum Co., Dallas, A. J. Baker 36, H. Cottle sur, 300 ft NW No. 15.

Hutchinson County — Phillipps Petroleum Corp., Bartlesville, Okla., J. B. Walling 1, No. 6 M. Whitley sur, 330 ft to N and W lines. Gulf Production Co., Fort Worth, Cline 2, S 21, B 47, E. V. Hedgecocke 1785 ft W No. 1. Badger Oil Co., Amarillo, D. Lewis 2, S 5, B 23, W of No. 1.

Harris County—Gulf Prod. Co., Houston, J. Smith 25, Wm. Scott sur, 312 ft to E and 125 ft to N line; Beaumont Pet. 34, L. Hager sur, 50 ft SW No. 17. Woods & Bennett, Humble Edgar Hrs. 6, J. Strange sur, 36 ft W No. 5. Rio Bravo Oil Co., S. P. Bldg., Houston, Fee PF3, J. A. Williams sur, 50 ft to E and 822 ft to S line.

Howard County — Magnolia Petroleum Co., Dallas, G. V. Chalk 2, S 114, B 29, W&NW sur, 150 ft to W and 1000 ft to S line.

Hardin County—Minor Oil Co., Beaumont, Fee 78, S. Jackson sur, 120 ft NE No. 65. Texas Co., Houston, LeJarza Oil 2, A. M. LeJarza sur, SW corner.

Jack County—Godley Oil & Gas Co., Dallas, H. P. Bowen 1, 2640 TE&L sur, 150 ft to N and E lines. Hendrick Camp Drilling Co., Harvey-Snider Bldg., Wichita Falls, H. Bloodworth 1, B 4, J. B. Irvine sur, 150 ft to N and W lines; 1, S 2, G. Kaltrider sur, 150 ft to S and W lines. Guthrie, Cole & Ferguson, Box 744, Wichita Falls, W. D. Snedeker 4, B 7, J. Robbins sur, 400 ft W No. 3. McElreath & Phillips Pet. Co., Harvey-Snider Bldg., Wichita Falls, J. P. Goefle 1, T. B. Sporer sur, 1650 ft to N and 450 ft to E line.

Jackson County — L. E. Norton, Scanlan Bldg., Houston, C. O. Fenner 1, A. S. White sur, SE cor.

Jim Hogg County—Magnolia Pet. Co., Dallas, Killam-Martinez 13, No. 276 sur, 300 ft

You CAN'T LOSE By This Arrangement.

Either the No-Co-Ro Drop and Seat outlasts the two best Balls and Seats you have ever used or your money is refunded. Consider the cost of pulling jobs, and the frequency with which your wells must now be pulled and you'll begin to appreciate the importance of this remarkable development.

If you operate in the Mid-Continent, you may now reduce your stock of pumping equipment, and the investment tied up therein, without danger of being "caught short."

The new Norris Brothers warehouse is part of your own warehouse. 12 to 24 hours after your "requisitions" come in, the equipment will be on your lease. Drops and Seats, Balls and Seats. Sucker Rods, Safety Hooks. Pull Rods, Polish Rods and Working Barrels are just a few of the items always in stock.

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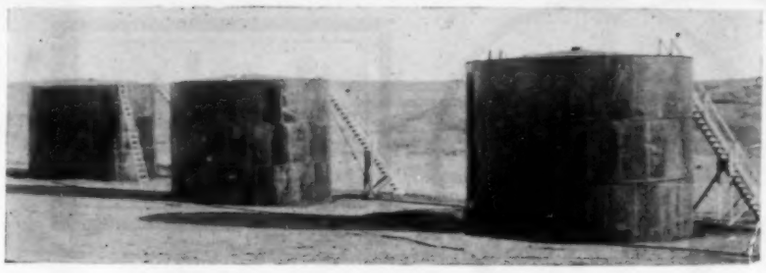

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Patented "crimp" at seams and joints, giving a mechanically exact fit where sheets overlap; our own perfected gasketing material and Gaso Cement; our method of reinforcing seams with strong steel strips and channels; our superior valve and thief-hatch equipment.

MALONEYS are extra-durable also, being made of rust-resisting Keystone Copper Steel.

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Tulsa, Oklahoma

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Packed in Steel-Bound Crates for Export

"Buck" Type Vacuum Pressure Valves and Vacuum Breakers Furnished

MALONEY

The Jensen Straight-Lift Counter-Balance

With Maximum stroke of 28 inches. Weight of jack is 1500 pounds.

Straight-Lift Counter-Balance

This JENSEN JACK is similar in every way to our Improved Model except that it is an extremely heavy type and is especially suitable for satisfactorily handling deep well pumping. It is built to lessen wear and tear on machinery as the Counter-Balance actually does balance the rod in the well.
The long-stroke feature on this JENSEN JACK is not so pronounced but a practical stroke of thirty inches is given which is more than the ordinary Jack usually affords.
A lighter JENSEN STRAIGHT-LIFT COUNTER-BALANCE is ready for the market. Ask us about it and other of our products which will meet every pumping requirement.

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Sold by All Supply Companies

Jensen Brothers Manufacturing Company
Nowata, Oklahoma

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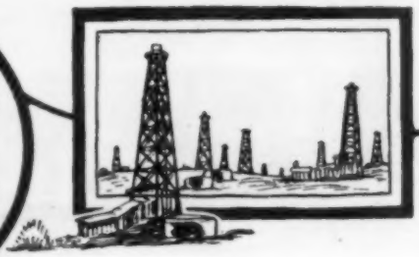

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PEDEN IRON & STEEL CO.
HOUSTON – SANANTONIO – SHREVEPORT

SW No. 7; 14, same sur, 300 ft E No. 13. K & S Corp., Laredo, R. Holbein 43, S 15, B 9, Las Animas sur, 150 ft to S and W lines of B 9; 42, same sur, 330 ft S No. 32.

Jefferson County—Gulf Production Co., Houston, Oakwood-Realty 1, J. Douthitt sur, 50 ft to S and W lines; J. Mann 1, J. Douthitt sur, 170 ft to W and 50 ft to S line; No. 2, 50 ft to N and W lines; J. F. Weed 2, J. Douthitt sur, 288 ft to NE and 50 ft to N line; No. 3, 100 ft to E and 30 ft to S line. Ross Comleist, Beaumont, Ewing & Ring 1, B 102, J. A. Veatch sur, center. Porch. Telschow & Cady, Chronicle Bldg., Houston, J. H. Trembley 5, B 7, J. A. Veatch sur, 35 ft to W and 150 ft to S line.

Kaufman County—A. F. Haynes, Republic Nat. Bank Bldg., Dallas, E. L. Warren 1, Wm. Smith sur, 450 ft to SW and 3030 ft to SE line.

Liberty County—Gulf Production Co., Houston, Phoenix 71, J. Devore sur, 352 ft N No. 68.

Limestone County—Roth, Kerr & Gillette, Tulsa, Okla., C. O. Wright 2, N. B. Boyd sur, 150 ft W No. 1.

Montague County—Texas Co., Wichita Falls, I. A. Gist 13, Wm. Donoho sur, 300 ft N No. 12. F H E Oil Co., Nocona, J. W. Maddox 1, J. Chambliss sur, 150 ft to N and W lines. Texhoma Oil & Ref. Co., Wichita Falls, J. W. Rowland 4, J. Chambliss sur, 485 ft to E and 150 ft to S line. Texas Co., Cisco, J. A. Gist 14, Wm. Donoho sur, 300 ft N No. 13; No. 15, 522 ft N No. 4; No. 16, 4007 ft to N and 212 ft to W line; J. W. Rowland 10, J. Chambliss sur, 152 ft to N and 1309 ft to E line. Pure Oil Co., Mexia, J. W. Rowland 3, J. Chambliss sur, 335 ft E No. 4.

Mitchell County—California Co., Colorado, Texas, O. Handley 1, S 12, B 28, T&P Ry sur, 330 ft to W and 990 ft to S line.

Milam County—Union Production Co., Rockdale, A. Strelsky 7, Chambers sur, 639 ft NE No. 6; No. 8, 600 ft NW No. 7. Paul Pet. Co., Hillsboro, T. Phillips 2, 150 ft to N and W lines. G. P. Mann, Minerva, Bethlehem School 1, Chambers sur, 150 ft to N and E lines. Brady Bros., Rockdale, Raldridge 3, T. J. Chambers sur, 150 ft to center of SW line; No. 4, 300 ft NW No. 3. Chicago Oil & Land Co., Rockdale, Gaither-Brown 7, Chambers sur, 150 ft to S and W lines.

Montgomery County—Howard Pet. Corp., Box 535, Houston, J. L. Nichols 1, L. West sur.

McCulloch County—Junior Oil Co., Cross Plains, Beasley 1, B 60, No. 279, H&TC sur, 660 ft to N and W lines.

Navarro County—Simms Oil Co., Dallas, J. T. Rose 16, Jno. Harris sur, 300 ft N No. 12; No. 12, 380 ft NW No. 6. Star Production Co., Wortham, W. L. Garrett 3, M. Boren sur, SW corner; No. 4, NE of No. 3. G. C. Kent, Corsicana, R. Hardy 5, S. F. McCandless sur, 600 ft SW No. 4.

Panola County—Magnolia Pet. Co., Dallas, I. Tiller 3, E. F. Mitcheson sur, 330 ft to S and E lines.

Reagan County—Group I Oil Corp., Big Lake, University 47, S 36, Blk. 9, 1980 ft to W and 1320 ft to S line; No. 48, 1320 ft to S and 2640 ft to E line; No. 49, 1980 ft to N and 2640 ft to E line; No. 50, 1320 ft to N and 1908 ft to E line; No. 51, 1980 ft to S and E lines.

Roberts County—Chas. Page, Sand Springs, Okla., W. T. Hammond 1, C. C. S. L. sur, 2982 ft to N and 4042 ft to E line.

Shackelford County—G. L. Powell, Box 117, Moran, C. B. Snyder 13, L.A.L. S 39 sur, 150 ft to S and E lines.

Schleicher County—Coe & Dalton, San Angelo, S. Mayer 1, S 99, B 5, GC&SF sur, center.

Upton County—Texas Co., Houston, A. S. Burleson 1, S 100, T. C. Jones sur, 330 ft to S and W lines. Marland Oil Co., W. T. Waggoner Bldg., Fort Worth, A. S. Burleson 11, S 100, T. C. Jones sur, 3301 ft to E line; No. 10, 2605 ft to E and 330 ft to N line; Sanger 8, S 1151, Blk. R, S. H. King sur. Gulf Prod. Co., Fort Worth, M. L. Baker 2, E. C. Grooms No. 8 sur, 330 ft to S and E lines.

Wichita County—Gulf Prod. Co., Fort Worth, G. Jennings 18, S 11, HT&B Ry sur, 400 ft W

No. 17. Macey & Johnson, Electra, T. L. Burnett 1, S 2, HT&B Ry sur, 200 ft to S and E lines. Hathan & Batcher, Wichita Falls, H. Willis 1, C. Winters sur, 450 ft to N and 150 ft to W line. Mon-Tex Oil & Gas Co., Montague, E. E. Hardin 1, O. Farrish sur, 450 ft to W and 276 ft to N line. Chambers & Tedford, Box 90, Wichita Falls, C. Birk 2, J. Johnson sur, 300 ft N No. 1. Camp Oil & Gas Co., and Sheldon, Wichita Falls, S. Woodruff 4, S 21, H&GN sur, 750 ft to N and 447 ft to W line; No. 5, 292 ft NW No. 4. Rubsam & Hunter, Wichita Falls, W. D. McClure 16, B 5, GC&SF Ry sur, 150 ft to N and W lines. E. S. Easton, Box 665, Wichita Falls, Burnett Est. 2, S 1, HT&B Ry sur, 150 ft to N and E lines. Panhandle Ref. Co., Wichita Falls, Kemp & Kempner 4, B 49, W. V. F. L. sur, 300 ft SW No. 3. Kimmell & Dillard, Wichita Falls, Fassett-Tuttle 2, J. A. Bradford sur, 300 ft N No. 1. J. A. Fisher, City Nat. Bank Bldg., Wichita Falls, Fee 4, S 24, B 5, L. M. Collins sur, 300 ft S No. 3. Murbach & Holmberg, Wichita Falls, F. P. Warren 6, GL&C Co. sur, 525 ft to N and 300 ft to W line. T. F. Hunter, Wichita Falls, J&J Waggoner 16, S 1, GC&SF Ry sur, 300 ft S No. 13. Rubsam & Hunter, Wichita Falls, W. D. McClure 3, B 5, GC&SF sur, 300 ft E No. 1. Trinity Production Co., Waggoner Bldg., Wichita Falls, S. B. Burnett 17, S 7, HT&B sur, 150 ft to S and W lines. Ryan Pet. Corp., Bartlesville, Okla., G. Nance 76, S. O. Fowler sur, 400 ft W No. 74; No. 75, NW corner. D. M. Ross, Wichita Falls, S. Mitchell 14, P. Castleman sur, 150 ft to S and W lines. Jno. O'Neil, Wichita Falls, A. Honaker 1, AB&M sur, 150 ft to W and 450 ft to S line. Electra-Gulf Oil Co., Electra, Wm. Murray 9, H. B. Balch sur, 620 ft to N and 150 ft to E line. Humble Oil & Ref. Co., Wichita Falls, H. B. Hines 6A, S 11, H&GN sur, 20 ft E No. 6.

Wilbarger County—Humble Oil & Ref. Co., Wichita Falls, W. H. Stephens 48A, S 83, B 14, H&TC sur, 300 ft W No. 19. Texas Co., Wichita Falls, W. T. Waggoner 306, S 20, B 6, H&TC sur, 600 ft to S and W lines; No. 305, center. Empire Gas & Fuel Co., Staley Bldg., Wichita Falls, W. H. Stephenson 47, S 83, B 14, H&TC sur, north central. Humble Oil & Ref. Co., Wichita Falls, W. T. Waggoner 15, S 42, B 4, H&TC sur, 450 ft W No. 11; F. Bond 14, S 100, B 14, H&TC sur, 50 ft W No. 2; No. 15, 150 ft to S and W lines.

Webb County—Murchison & Fain Oil Co., Wichita Falls, Bruni 1, B 13, Arriba sur, 150 ft to S and W lines; No. 2, 150 ft to N and W lines; No. 3, 150 ft to W and 450 ft to S line. Staley, Wynne & Co., Staley Bldg., Wichita Falls, A. Bruni 16, S 18, Arriba sur, 468 ft S No. 15; No. 17, 502 ft S No. 16. Texas Co., Houston, C. H. Webster 1, No. 684 sur, 150 ft to S and W lines; No. 2, 300 ft E No. 1. Associated Oil Co., Houston, C. H. Webster 4, No. 684 sur, 165 ft to N and 150 ft to E line; No. 1A, 150 ft to N and E lines. J. K. Hughes Dev. Co., Mexia, V. L. Puig 10, Las Albercas sur, 155 ft to N and W lines. Sun Oil Co., Dallas, A. M. Bruni 4, Las Albercas sur, 425 ft E No. 3.

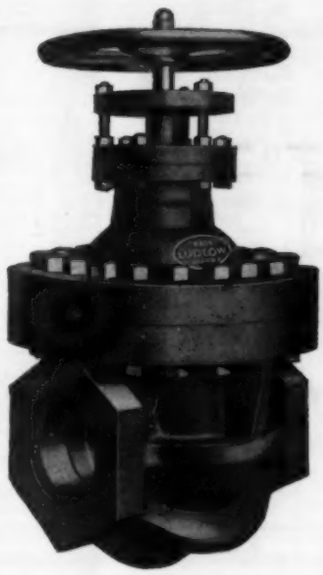
Wharton County—J. W. Rich, Bankers' Mortgage Bldg., Houston, I. S. Malone 1, B 5, E. M. Cox sur, 100 ft to W and 200 ft to S line.

Wheeler County—Jno. O'Leary, Palo Duro Hotel, Amarillo, Walker & Martin 1, S 98, B A, H&GN sur, 150 ft to S and W lines.

Winkler County—Brandon & McCamey, W. T. Waggoner Bldg., Fort Worth, M. E. Cole 1, S 11, B 46, center of SE¼.

Young County—Howard Pet. Corp., Tulsa, Okla., W. R. Ledbetter 1, Tynes sur, 1130 ft to W and 150 ft to N line. G. W. Webster, Alexander Bldg., Tulsa, Okla., M. L. Brainerd 1, B 1923, TE&L sur, 660 ft to N and 1417 ft to E line. Wooten & Reed, Graham, R. A. Drum 1, L. W. Ross sur, 1500 ft to N and 500 ft to E line. Magnolia Pet. Co., Dallas, M. C. Little 5, H. Holman sur, 300 ft W No. 1. R. D. Sudderth, Henrietta, H. J. Sloan 1, M. Edmonds sur, 3000 ft to N and 450 ft to E line. Sun Oil Co., Dallas, O. Dietrich 9, S 4, BBB&C Ry sur, 300 ft E No. 6.

LUDLOW VALVES



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The Ludlow method of wedging or locking gates, and construction of wedges was adopted only after years of tests and experiences.

Because of this construction LUDLOW DOUBLE GATE VALVES will work easier under pressure and with less wear than valves of any other make.

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NEW EQUIPMENT, CATALOGS, BULLETINS, BOOKS

Electric Pipe Machine Is Stationary or Portable

Hall-Will, Inc., Erie, Pennsylvania, manufacturers of a complete line of precision, production machines, has placed on the market their first tool, the Red-E-Hall Portable Electric Pipe Machine, capacity one-quarter-inch to two-inch pipe, and one-half to one and one-half inch bolts. It can also be used as a power unit, using universal shaft to drive hand stocks up to 12-inch.

This tool is designed as a portable machine but can be changed over in three minutes to a stationary machine.

The machine is malleable iron and steel construction throughout and weighs 450 pounds.

Built-in truck—elevating for portable operation. Rear feet of machine are mounted on small wheels, while front feet are provided with double swivel castors, which elevate front of machine when handle is moved forward. If machine is not going to be moved frequently, truck, wheel and castors can be dismantled and laid away until required.

Friction clutch—for stop and start—operated by lever handle on top of machine—handy for checking threads, trying on fittings and screwing up parts.

Silent chain drive—direct from motor to machine.

Motor is one horsepower, 1750 R.P.M. reversible, bolted direct to main frame, well out of the way yet handy to get at for adjustment and oiling. Push or turn button control—stop, start and reverse—attached to outside of bed convenient for operator.

Timken roller bearing on all drive shafts. Easy to adjust and provided for thrust where necessary—self oiling.

Three speeds—extra fast for cutting off—all gears and shafts run in oil—self lubricated—speed changed by selective slide system—neutral position between all shafts.

Gears are nickle chrome steel—heat treated. Close nipples can be threaded without extra equipment using only the standard chuck on machine. The lever handle on top of die head provides an easy method for opening and closing die head. Once the die head has been set to a given size it can always be brought back to the same position by simply pulling down lever to locking position. Adjustments for over-size and under-size threads have also been provided for by turning the two narrow nuts on head bracket; on the ouside of cam and handy for operator are the graduations and markings for setting die head for various sizes of pipe.

The locking device on head is positive. Impossible for head to open or slip while thread is being cut. The cutting oil is forced into a chamber in the die head and three specially arranged outlets allow it to be amply distributed direct on the dies.

Cut-off attachment is new type, fast and serviceable. The ways and support for V block is cast solid to die head, wide face and with long bearings.

The cut-off block is mounted on front V block. Taper steel gib insures proper adjustment of tool block, keeping it steady at all times. Blade is double bevel high speed tempered the entire length, set at proper angle to give the best cutting results. Handle on cut off screw allows the rapid operation of cut off tool.

Double opposed V block with interchangeable hardened tool steel plates hold pipe absolutely steady for cutting off. Impossible for pipe to climb on cut-off tool or chatter. The rear block opposite cut-off blade is extra wide as this block takes most of the natural thrust and wear from cut-off tool.

V blocks are operated by handle on rear side of machine which is attached to right and left hand screw fitted to phosphorous bronze nut in each block.

Reamer and chamfer lever is mounted on cut off block, swivel type with high speed steel bit.

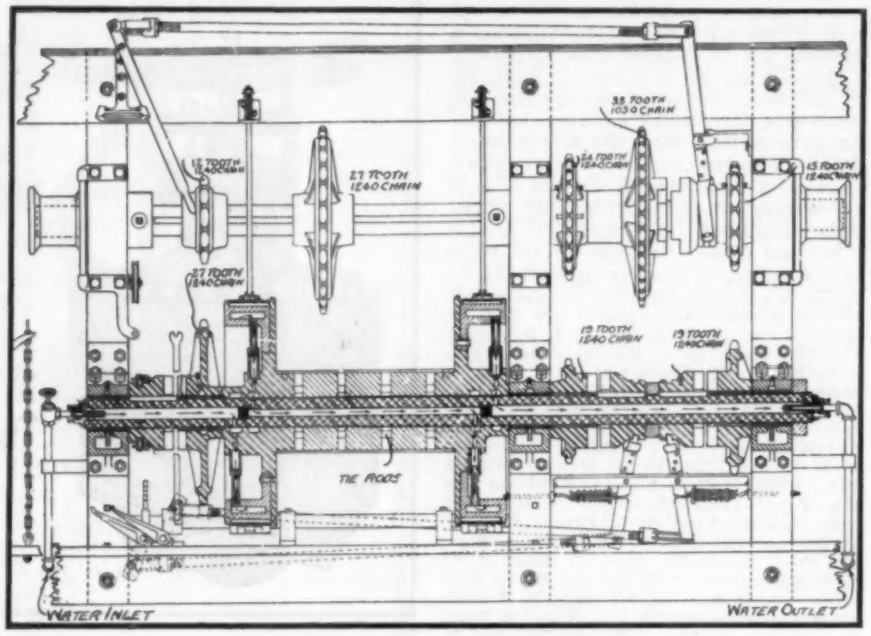
In the front end of bed is the chip pan and oil chute which delivers the cuttings to the chip box from where the oil drains off through two strainers to the oil reservoir just below. The chip pan can be removed quickly and is of ample capacity.

The oil pump is rotary geared, reversible, driven direct from motor—constant speed. This method insures the delivery of the maximum volume of oil at all times, the pump being on a level with the reservoir, it is always primed, reducing chances of pump trouble. Tool tray is provided to the rear of oil reservoir which makes a handy and private place for all tools, dies, etc.

As a power unit, with the aid of a universal shaft, the machine will drive hand stocks up to and including 12-inch, without dismantling machine. This machine threads right and left hand pipe, cuts off and reams.

Four sets of chasers to cover complete range of machine. One set cutting one-quarter and three-eighths; one-half and three-quarters; one and one and one-quarter; one and one-half and two-inch. Standard equipment includes four extra set of dies as specified above or at option of the purchaser.

More data will be sent by the company on request.



Beaumont Iron Works Draw Works

The new Red-E-Hall portable pipe threader ¼-inch to 2-inch

Drawworks With Cooled Brake Flanges

A rotary drawworks with a special cooling arrangement for the brake flanges is being introduced to the fields with much success by the Beaumont Iron Works Company, Beaumont, Texas.

This cooling arrangement is said to eliminate excessive and dangerous heating of the flanges while running in or coming out of the hole.

Water circulation is obtained through a connection with the boiler feed pump, and is introduced to the hollow flanges through a hole in the center of the drum shaft. The intake of the water into the drum shaft is on the end, close to the driller's position, and a valve in the water line is placed very conveniently so that the flow can be regulated if so desired. In order to avoid leakage at either end of the shaft, a special swivel stuffing box is used.

General dimensions and construction of the drawworks are as follows: 5 15-16 line and drum shafts, electric steel sprockets and clutches, chain oiling boxes, all clutches and clutch sprockets tapped for alemite lubrication, plus the water cooled brake flanges. The drawworks can be equipped with either two or three speeds, at the option of the purchaser.

Further detailed information can be supplied by the company upon inquiry.

Safety Tubing Block Is Popular in Fields

A new tubing block known throughout the Mid-Continent as the McKissick Eccentric Safety Tubing Block, is being manufactured by the Peerless Supply Company, Tulsa, Oklahoma, and has also been standardized on by a number of leading Mid-Continent op-

(Continued on page 76)

BUY USED PIPE

And Save The Difference.

50,000 ft. 2-inch used line pipe,
25,000 ft. 3-inch used line pipe,
75,000 ft. 4-inch used line pipe,
40,000 ft. 6-inch used line pipe,
10,000 ft. 8-inch used line pipe.

One complete string Standard Drilling Tools.
One string 6" Rotary Drill pipe with Tools.

Two miles or approximately 200 tons No. 1 60-lb. relaying rails complete with spliced bars and bolts.

We buy abandoned pipe lines and oil wells. If you have any to sell, communicate with us before you dispose of them.

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Western Headquarters: Fort Worth, Texas, 315 W. T. Waggoner Bldg.

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ITS REVERSIBLE, TWO IN ONE VALVE SCREWS IN BOTTOM OF WORKING BARREL COLLAR — REDUCES YOUR TUBING JOBS.

Manufactured in Brass or Steel

Sold by Supply Houses

REX SUPPLY COMPANY

Sour Lake, Tex.
Patented Aug. 15, 1922, No. 1425710

STANDARD RAIL & STEEL COMPANY
Oil Well Supplies

For Immediate Shipment from Stock:

10 Miles 2-inch Standard Line Pipe
10 Miles 3-inch Standard Line Pipe
10 Miles 4-inch Standard Line Pipe
5 Miles 6-inch Standard Line Pipe
2 Miles 8-inch Standard Line Pipe
10 Miles 4-inch O. D. Line Pipe
10 Miles 5½-inch O. D. Line Pipe

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LETTERS OF Paul Peebles P.S.G.

mi deer cleopatry

cleo hunny I hate all the time 2 be makin excuses 2 yu about not cummin 2 sea yu, espeshul when I git as clost 2 yu as I was satterdy & not cum on ovver, but this time I hav a good excust on account of I had 2 go 2 a picknick down 2 silvan beetch on account of if I did not go well it wood not of bin enny picknick because I was the mane squeeze, only hunny even if I did do a lot of squeezin well yu do not need 2 be peeved about it because I did not squeeze nuthin but lemons while ennyboddy was lookin, &.in the watter don't count, espeshul if the watter is muddy like it is in the bay.

but I will begin back at the beginnin & tell you all about it, like you always like for me 2 do & like I alwaze do, on account of I do not keep no sekrets from yu atall hunny.

well 1 day last week when I cum ovver 2 the gulph publishin co where I gits mi male whitch is adrest 2 me in the care of the oil weakly, well bobby burns whitch is the manadger over their, he calls me in & says 2 me paul we are goin 2 hav a picknick next satterdy down 2 silvan beetch & we want yu 2 be the grand marshall.

& I says 2 him does that meen that I will ride on a horse at the hed of the peerade? & he says yes if I can find a hoss that can keep in front of dudley's lincolm automobeel.

so I desided rite then that mabe I had better use mi car, whitch is also 1 of Mr. ford's models & take about a 1 hour start.

whitch is the reesen hunny that I did not hav time 2 cum bi & take yu 2 the picknick like I wood like 2 hav did, espeshul after I found out that the widder where I bordes was goin 2 ride down 2 the picknick with sum moar laddy's, but even at the saim time I did not no who all wood be there in the way of laddys & of corse yu wood rether hunny that I wood take yu 2 a picknick where it is not no other girls what I no on account of they wood not let me alone.

like it was I was the most poplarest man at the picknick on account of I had charge of the leminade & sody pop & ise creem. hunny I opened up enuff pop 2 float a oil tanker & squoze enuff lemins 2 sour a barrel of molasses & dipped up enuff ice cream 2 make a ise berg, but it shore was fun.

but the most fun was havin the girls cummin up smilin at me so that they wood be the next 2 git what they asted for. I had 2 moar niggers helpin me crackin ise & that kind of hevvy work, & I was workin so hard part of the time I was all het up, escept mi hands whitch was pretty neer froze off from lookin in the bottom of a tub of ise & salt for the kind of pop whitch the next customer in line prefered, but that did not bother me none hunny on account of the customer was either a pretty lady whitch was smilin at me, or a little kid whitch was wonderin how long a supply of free drinks wood hold out, & hunny if yu ever sea ennyboddy whitch says they hav had a good time at a picknick, well yu ast them if they worked 2 help evryboddy elst hav a good time, & if they sed they didn't well yu tell them that they dont no what a good time is.

hunny mabe yu hav herd sumtimes about what the gulph publishin co says about what is there capasity, about how menny oil weaklys they can tern out & other maggerzines & printin, but I bleev I hav got the low down on them now.

includin there kids & wives & sweethartes: there capasity is 500 ise creem cones, 336 bottles of pop, 246 glasses of lemonade & 20 gallons of ise watter, not 2 menshun about 1 ton of sandwiches & cake & fride chicken etcetery whitch I did not hav nothin 2 do with bringin, & also whatever other likwid refreshments whitch sum of the boys mite hav made from a private formerler, & the sea watter whitch the girls drunk when they got ducked in the bay.

takin it all around hunny it was a big day, as yu mite expeck if they had me for the grand marshall.

& I forgot 2 say in them statisticks up above that the party, whitch was about 175, ridden a total of 1000 person miles on the hobby horses & 10,000 passenger miles in automobeels, besides the miles made in a 2-seckshun ball gaim whitch did not keep no ofishul skore because I forgotten 2 take the offis addin masheen down for that purpose.

well hunny now that that is all over I hav got sum bad news for yu. I did not tell yu that I was plannin for us 2 git marred as soon as I cood perswade lilo crain 2 sell me 1 of his reddy cut houses on credit whitch I was almost doin when he up & has a big fire at his crain reddy cut house co hear in huston.

well that will meen hunny that he will get a little behine with his orders while he is gittin his plase bilt back, but just as soon as he can ketch up with his work agin I will start pesterin him 2 bild us a house agin.

yu no ole e. l. has got a lot of bizness with the oil co's. & while he is gittin his plant bilt back well he will hav orders pilin up on him & sum peeple will be sleepin in tents waitin for him 2 git goin agin, so we will hav 2 put off gittin marred mabe a few moar weeks on account of that, & mabe then sumthin elst will interfere with our plans.

but talkin about the fire remines me that yu do not need 2 pay no atenshun 2 what ennyboddy says about me havin a girl out ridin that nite, because of corse when she seen the big blaze well I had 2 take her over that way so we cood sea it & mabe old slim was around their like he is always sum plase where he aint got no bizness bein.

so if he seen me yu will no how it is, because if it had not of bin for the fire well we wood of just ridden around in the park & along the byo drive where it aint enuff lite for him 2 no who I am, but the fire lited things up so that it was just like day, so don't yu pay no atenshun 2 none of his lies. because hunny I can explane it all 2 yu the next time I sea yu, & besides that the widder where I bordes was along with us.

slim is all the time tryin 2 misrepresent things about me bein out with wimmin, hunny, but yu no he is just tryin 2 beet mi time bi makin yu bleev that I am not trew 2 yu & then he thinks he wood hav a chanct, whitch I hoap yu hav got more better sents.

hunny I was intendin 2 rite 2 yu sum moar about pollyticks this week & about me runnin for the legislashure, but I was so bussy goin 2 fires & picknicks that I did not hav no time 2 think about it. so yu just go ahed & vote in the primery next satterdy for dan moody & if yu can vote twict it will be fine.

but when yu vote for ennyboddy for the legislashure do so with yore fingers crosst because I am pretty liabul 2 be runnin in the seckend primery if they nommynate dan so I can stay in the demmycrat party & in the case 2 menny votes for maw, well I will be runnin on the republikan ticket in the fall.

ordernery hunny I do not take no dish in polyticks, but this year I think I ort 2 run for sumthin & I hav set on the ideer of runnin in the seckend primery & not the first because them what runs in the first 1 pays all of the expentses for the 2nd, only it will be a good joak on them if dan wins in the 1st & they dont hav no 2nd after they hav alreddy pade for it.

well hunny I guess mabe I will got 2 git down & sea yu sumtimes after the eleckshun on account of mabe I will hav 2 make a speach at goose creek when I am runnin for the legislashure.

yore lovvin paul.

SQUEAKS FROM THE BULL WHEEL

Boss: "Mike, how did the accident happen?"

Mike: "Well, boss, ye see, 'twas like this. I was drivin' me truck up State Street, when I had to stop suddenly, and a fellow in a big Packard crashed into the rear end of me truck. Shure it didn't hurt his machine very much, but he jumped off and ran up to me and shakin' his fist said, 'Hey, you little Harp, why didn't you put out your hand?' Put out me hand, says I? ye dang fool, if ye couldn't see the truck, how the divil could ye see me hand?"—Fay Egan's "Lightning" Line.

An Idaho man was fishing in Lake Crescent recently. He caught a big northern pike; the biggest he had ever landed in his long and busy life. He was elated. He was crazed with joy, and he telegraphed his wife: "I've got one; weighs seven pounds and it is a beauty."

The following was the answer he got: "So have I; weighs ten pounds. Not a beauty—looks like you. Come home."—Magnolia Oil News.

Hubby: "Well, dear, I suppose you were right about there being burglars in the house last night."

Wifey: "Why?"

Hubby: "Because the money I had in my pocket is gone."

Wifey: "Well, why didn't you get up and shoot the burglar?"

Hubby: "If I had, I'd have been a widower this morning."

"Did you dream you were out riding with him last night?"

"Yes—how did you guess it?"

"Saw you walking in your sleep."

"Doctor, will sun baths benefit me?"

"Fine—if you'll take a shower bath so the sun can get to your skin."

Uncle: "If you are good, Charlie, I'll give you this nice bright new penny."

Nephew: "Haven't you got a dirty old nickel instead?"

Man (in barber chair): "Be careful not to cut my hair too short; people will take me for my wife."

You say you've never been embraced
And I begin to think it's so,
For you are frigid and as chaste
As ice or newly fallen snow.

I've never seen such innocence—
I'm sure it has no parallel,
But would you show such reticence
If you were sure I'd never tell?

"Any insanity in the family?" asked the insurance doctor to Mrs. Suffragist.

"Well, no; only my husband imagines he is the head of the house."

"Why did you break off your engagement?"

"Oh, my dear, Jack became simply impossible. He criticized the way I dressed and objected to my friends, and always wanted me at his beck and call. Then on top of all that he suddenly went off and married another girl, so I made up my mind to have nothing more to do with him."—Magnolia Oil News.

Liza: "My man shuah is lazy! Ah bet he's got the softest job in town."

Jane: "What does youall's man do?"

Liza: "He's a testah in de mattress fact'ry."

A portly gentleman, laden with traveling bags, was endeavoring to make a dignified exit from a crowded railway carriage. At the door he stumbled on the pet corn of a brawny Scotchman.

"Hoot, mon, hoot!" said the Scot. "Canna ye look whauer ye're goin'? Hoot!"

After alighting in safety, the overburdened traveler returned: "Hoot yourself. I'm a traveler, not a motor car."

Cop: "Hey, where did you get that red light?"

"Whassyu think, ossifer, some careless person left it right on the edge of a big ditch."

Agent: "Don't you want your office furnishings insured against theft?"

Manager: "Yes; all except the clock. Everybody watches that."

"Help, help!" cried the timid young thing as she ran through the field of daisies and morning glories toward her escort.

"Why, what are you afraid of?"

"Oh, Jimmy, dear, the flowers are so wild!"

Lady (to new housemaid engaged by letter): "Why didn't you tell me, when you wrote answering my questions so fully, that you were Scotch, Mary?"

Mary: "I didn't like to be boasting, mem."

A Turk has but to say "I divorce you" three times to his wife and he is divorced.

An American has but to murmur Phyllis once, and—if his wife's name happens to be Ethel—he's gotten the Turk beaten to a frazzle.

Sunday School Teacher—Does any one know why Moses' mother hid him in the bullrushes? All right, Betty, you may tell us.

Betty—I 'spect it was 'cause his mamma wanted to go to a bridge party.—Capper's Weekly.

It was 3 o'clock in the morning and the lobby was deserted. The buzzer buzzed insistently and at last the sleepy elevator boy took his car up to the fourth floor, returning shortly with a guest in a bathrobe.

"Say," said the guest, rather thickly, "wantcha change my room. Room 412. Wanta change it."

The night clerk said it was impossible, but the man insisted and was finally assigned to room 312. As the guest left the desk, leaning on the elevator boy, the clerk asked him what was wrong with 412.

"Nothing—nothing at all. It's a fine room. Only if you go up there now you'll find it's on fire."

"I won't go riding with Jack again," stormed Gloria. "He's afraid to drive with one hand. Why, I'd rather go with a monkey."

"Yes, a monkey wouldn't be bad at all," conceded Gwen after some thought. "He could drive with his feet."—American Legion Weekly.

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Safety Tubing Block Is Popular In Fields

(Continued from page 73)

erators. The block is being sold through all supply companies.

This block is built with the hole through the frame slightly off center, allowing the tubing-line to pass underneath the safety guards when the block is open. This makes it possible to string the block without taking off any extra parts.

The 26-inch size weighs 290 pounds, measures 43 inches overall, and is 26 inches from the center of the top pin to the center of the lower pin. The center pin is two and three-fourths inches and is bushed with phosphorus bronze bushing and has alemite lubricating. The block is designed to part a one-inch wire line if properly lubricated.

The block is said to be fool-proof and is safe, as it is impossible to get the fingers caught in between the line and sheave. The fact that the block cannot turn over is also an advantage.

Other information will be supplied by the company, on request.

Flood at Salt Creek

Casper, Wyo.—Due to the recent floods in the Salt Creek field, pipe line runs declined 18,000 barrels during the past week. Streams running through the field broke gathering lines, put pumps out of commission and hindered every phase of production. The completion of wells was even hampered. Electrical pumping equipment suffered heavily. Electrical storms seemed to center over the field. Production will not be up to normal for more than a week, it is thought.

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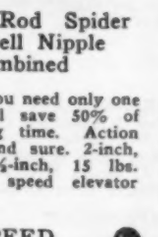
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States Engineering Co.
Westcott & Greis

GAS ENGINES
C. F. Camp Co.
Emsco Derrick & Equipment Co.
S. M. Jones Co.
Joseph Reid Gas Engines Co.
Waukesha Motor Co.

GAS GENERATORS
Baird Supply Co.

GAS LIFT SYSTEM
Jones-McLaughlin Co.

GAS TRAPS
Lorraine Corp.
Smith Separator Co.
Trumble Gas Trap Co.

GASOLINE AND OIL STORAGE TANKS
Butler Mfg. Co.

GEARS
R. D. Nuttall Co.

GEARS, Cast Steel
Oklahoma Steel Castings Co.

GEARS, Speed Reduction
R. D. Nuttall Co.

GEAR BLANKS, Cast Steel
Oklahoma Steel Castings Co.

GENUINE WROUGHT IRON CASING
Reading Iron Co.
South Chester Tube Co.

GEOLOGISTS
Edwin B. Hopkins
Armstrong, Price W.

GOVERNORS
Gardner Governor Co.

GREASE CUPS
The Lunkenheimer Co.

GRIPS AND CLAMPS
J. P. Ratigan
Sargent Engineering Corp.
W-K-M Company

HEAT EXCHANGERS
Hope Engineering & Supply Co.

HOISTS
Emsco Steel Products Co.

HOSE
Continental Supply Co.
Peden Iron & Steel Co.

HOUSES
Crain Ready-Cut House Co.

JARS
Spang & Company

JAR STEEL
Andrews Steel Co.

JOINT COLLARS
Federal Supply Co.

LABORATORY EQUIPMENT
Fort Worth Laboratories

LAPWELDED STEEL BOILER TUBES
The Tyler Tube & Pipe Co.

LEAD IN OIL
Eagle Picher Lead Co.

LEAD WOOL AND CONTAINERS
Eagle Picher Lead Co.

LIGHTING SYSTEMS
Bridgeport Machine Co.
General Electric Company
Westinghouse Elec. & Mfg. Co.

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Continental Supply Company
Peden Iron & Steel Company
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company
Wheeling Steel Corp.

LITHARGE
Eagle Picher Lead Company

BUYERS' GUIDE—Continued

LUMBER
Robertson-McDonald Lumber Co.

LUBRICATORS
The Lunkenheimer Company
Manzel Bros. Co.

MAPS
Heydrick Mapping Co.

METERS
Continental Supply Company
Metric Metal Works
Westcott & Greis

METERS, Drilling Well
Metric Metal Works

METERS, Orifice
Metric Metal Works

METERS, Provers
Metric Metal Works

MOTORS
General Electric Co.
Westinghouse Elec. & Mfg. Co.

OILING DEVICES
The Lunkenheimer Company

OIL FIELD SUPPLIES
Butler Mfg. Co.
Bridgeport Machine Co.
Continental Supply Company
Federal Supply Company
Frick-Reid Supply Co.
Erle P. Halliburton
Hercules Supply Co.
International Supply Co.
Jarecki Mfg. Company
Lee C. Moore & Co.
Lucey Mfg. Corp.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Company
Petroleum Iron Works Co., The
Republic Supply Co.
Regan Forge & Engineering Co.
Smith Separator Co.
Southern Brass Mfg. & Plating Company
United Iron Works, Inc.
J. H. Williams & Co.
Wilson & Willard Mfg. Co.

OIL FIELD CASTINGS
Oklahoma Steel Castings Co.
Sivyer Steel Casting Co.

OIL AND GAS PACKING AND INSULATIONS
Johns-Manville, Inc.

OIL WELL CASING
Continental Supply Company
Frick-Reid Supply Company
Republic Supply Company

OIL WELL CEMENTING
Erle P. Halliburton

OIL WELL REAMERS
Jones Oil Well Reamer Co.

OIL WELL SHOOTING
Eastern Torpedo Company
U. S. Torpedo Co.
Zero Hour Torpedo Co.

OIL WELL SPECIALTIES
Guiberson Corporation

OVERSHOTS
Baash-Ross Tool Co.
Continental Supply Co.
LeBus Rotary Tool Works
Regan Forge & Engineering Co.

PACKERS
The Guiberson Corp.
Larkin & Co.
Layne & Bowler
Regan Forge & Engineering Co.

PACKING
Continental Supply Company
Frick-Reid Supply Co.
The National Supply Cos.
Peden Iron & Steel Co.
Republic Supply Co.

PAINTS
Continental Supply Co.
Eclipse Paint & Mfg. Co.
Peden Iron & Steel Co.
Sullivan Company
Tnemec Paint & Oil Co.

PANEL BOARDS
General Electric Co.
Westinghouse Elec. & Mfg. Co.

PATENTS
Hardway & Cathey
Lancaster & Allwine
Jesse R. Stone

PERFORATED CASING
Kobe, Inc.

PINIONS
R. D. Nuttall Co.

PIPE
Central Tube Co.
Continental Supply Company
Frick-Reid Supply Co.
Harrisburg Pipe & Pipe Bending Co.
Hercules Supply Co.
International Supply Co.
National Tube Co.
The National Supply Cos.
Oil Well Supply Co.
Peden Iron & Steel Company
Reading Iron Co.
Republic Supply Co.
South Chester Tube Company
Youngstown Sheet & Tube Co.
Wheeling Steel Corp.
Wilson & Willard Mfg. Co.

PIPE CLEANING MACHINES
W-K-M Company

PIPE SCREWING MACHINES
Buckeye Traction Ditcher Co.

PIPE THREADING MACHINES
Jarecki Mfg. Company
Landis Machine Co.
Williams Tool Corporation

PIPE VISES
J. H. Williams & Co.

PIPE WRENCHES
Dunn Mfg. Co.
The Guiberson Corp.
LeBus Rotary Tool Works
Republic Supply Co.
J. H. Williams & Co.
Wickwire Spencer Steel Corp.

PISTONS, Slush Pump
Guiberson Corporation

PLUMB BOBS AND SEATS
Sargent Engineering Corp.

PORTABLE BUILDINGS
Butler Manufacturing Co.
International Derrick & Equipment Co.

PORTABLE DRILLING RIGS
Bridgeport Machinery Co.
Continental Supply Company
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.
Star Drilling Machine Co.
The National Supply Cos.
Waukesha Motor Company

PORTABLE COMPRESSORS
Chicago Pneumatic Tool Co.
Sullivan Machinery Co.

PROVERS
Metric Metal Works

PUMPING GEAR UNITS
R. D. Nuttall Co.

PULLEYS
Continental Supply Company
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

PULLING MACHINES
Continental Supply Company
Iron King Mfg. Co.

PUMPS
Axelson Machine Co.
Continental Supply Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
Gardner Governor Co.
Gaso Pump & Burner Mfg. Co.
Goulds Pumps, Inc.
Jarecki Manufacturing Co.

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Northrup Equipment Company
Oil Well Supply Co.
Peden Iron & Steel Company
Republic Supply Co.
Southern Engine & Pump Co.
United Iron Works Inc,
Waukesha Motor Co.

PUMPING ENGINES
C. F. Camp Co.
McIntosh & Seymour Corp.

PUMPING EQUIPMENT
General Electric Company
Northrup Equipment Company
Shaffer Specialty Co.
W-K-M Company

PUMPING POWERS
American Well Works Co.
Continental Supply Company
Frick-Reid Supply Co.
International Supply Co.
Jarecki Mfg. Co.
Jensen Bros. Mfg. Co.
Kansas City Hay Press Mfg. Co.
Spence Machine Co.

REGULATORS
Westcott & Greis

REFINED PRODUCTS
Gulf Refining Co.
Humble Oil & Refining Co.
Magnolia Petroleum Co.
Sinclair Refining Co.
The Texas Co.

RECORDERS
Fort Worth Laboratories

REFINERY EQUIPMENT
Butler Mfg. Co.
Continental Supply Company
Petroleum Iron Works Co., The
Republic Supply Co.
Smith Separator Co.
Titusville Iron Works
United Iron Works, Inc
Westcott & Greis
Wyatt Metal & Boiler Works

REVERSE GEARS
Emsco Derrick & Equipment Co.

RIG IRONS
International Supply Co.
Lee C. Moore & Co., Inc.
Oil Well Supply Co.
Parkersburg Rig & Reel Co.
Republic Supply Co.

RIVETING HAMMERS
Chicago Pneumatic Tool Co.

ROCK DRILLS
Chicago Pneumatic Tool Co.

ROTARY MACHINES
Emsco Derrick & Equipment Co.

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Johns-Manville, Inc.

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Eagle Picher Lead Co.

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ROTARY BIT STEEL
Andrews Steel Co.

ROTARY FISH TAIL BITS
Continental Supply Company
Regan Forge & Engineering Co.
Republic Supply Co.

ROTARY ROCK BITS
Hughes Tool Co.
Reed Roller Bit Co.

ROTARY TOOLS
Federal Supply Company

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Shaffer Specialty Company

SAND PUMPS
Larkin & Co.

SAND REEL SUPPORTS
Shaffer Specialty Co.

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Wilson & Willard Mfg. Co.

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Butler Mfg. Co.
Lorraine Corp.
M & V Tank Co.
Smith Separator Co.
Trumble Gas Trap Co.

SNUFFERS, Fire
Simplex Equipment Co.

SPECIALTY MANUFACTURERS
Shaffer Specialty Co.

SPECIAL STEEL CASTINGS
Oklahoma Steel Castings Co.
Sivyer Steel Casting Co.

SPEED REDUCERS
R. D. Nuttall Co.

STEEL, Alloy
Andrews Steel Co.
Central Steel Co.
Ludlum Steel Co.

STEEL BULL WHEELS
Emsco Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
McIntosh & Seymour Corp.

STEEL CALF WHEELS
Emsco Derrick & Equipment Co.

STEEL DERRICKS
Emsco Derrick & Equipment Co.
Emsco Steel Products Co.
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

STEEL CROWN BLOCKS
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.
Parkersburg Rig & Reel Co.

STEEL STORAGE TANKS
Butler Mfg. Co.
Petroleum Iron Works Co., The

STRAINERS
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Howard Smith Company
Kobe, Inc.
Layne & Bowler Co.,
J. H. McEvoy & Co.

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Central Steel Co.

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United Iron Works, Inc.

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Continental Supply Company

SUCKER ROD ELEVATORS
Axelson Machine Co.
Dunn Mfg. Co.

SUCKER ROD HANGERS
Lorraine Corp.

SUCKER ROD HOOKS
Regan Forge & Engineering Co.

SUCKER ROD ROTORS
Sargent Engineering Corp.

SUCKER ROD SOCKETS
Baird Supply Co.
Continental Supply Company
Federal Supply Company
Shaffer Specialty Co.

SUCKER RODS
Axelson Machine Co.
Continental Supply Company
Columbus Sucker Rod Co.
D & B Pump & Supply Co.
Frick-Reid Supply Co.
S. M. Jones Co.
The National Supply Co.
Kansas City Bolt & Nut Co
Oil Well Supply Co.
J. P. Ratigan
Republic Supply Co.

SWABS
Guiberson Corporation
Shaffer Specialty Co.
Simplex Equipment Company

SWING JOINTS
General Machine Works
Westcott & Greis

TANKS
Butler Mfg. Co.
The Brownell Co.
Maloney Tank Co.
M & V Tank Co.
Petroleum Iron Works Co., The
United Iron Works
Wyatt Metal & Boiler Works

TANK DEADWOOD
Robertson-McDonald Lbr. Co.

TANK EQUIPMENT
Westcott & Greis

TEMPER SCREWS
Burns Tool Co.

THERMOMETERS
Fort Worth Laboratories

TIMBERS
Robertson-McDonald Lbr. Co.

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Dunn Mfg. Co.
Guiberson Corporation
Howard Smith Company
LeBus Rotary Tool Works
J. H. Williams & Co.
Wilson & Willard Mfg. Co.

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Hughes Tool Co.
Peden Iron & Steel Company
Regan Forge & Engineering Co.
Republic Supply Co.

TOOL JOINT TONGS
Guiberson Corporation

TOOLS, Fishing and Drilling
Acme Fishing Tool Co.
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Frick-Reid Supply Co.
Houston Engineers, Inc.
Hughes Tool Co.
International Supply Co.
Oil Well Supply Co.
Peden Iron & Steel Co.
Regan Forge & Engineering Co.
Republic Supply Co.
Spang & Co.
Star Drilling Machine Co.
Sullivan Machinery Co.

TOOTHLESS SLIPS
LeBus Rotary Tool Works

TRACTOR WINCH
C. F. Camp Co.
Rock Island Plow Co.

TRAVELING BLOCKS
Baash-Ross Tool Co.
Continental Supply Company
Lufkin Foundry & Machine Co.
Regan Forge & Engineering Co.

TRET-O-LITE
W. S. Barnickel & Co.

TRUCK WINCHES
Braden Steel & Winch Co.

TUBING CATCHER
Dunn Mfg. Co.
Guiberson Corporation

TUBING LINES
Continental Supply Company

TUBING PROTECTORS
Mexia Planing Mill Co.

TUBING
Continental Supply Company
Central Tube Co.
National Tube Co.
Republic Supply Co.
Reading Iron Co.
South Chester Tube Company

UNDERREAMERS
Bridgeport Machine Co.
Guiberson Corporation
Wilson & Willard Mfg. Co.

UNDERREAMER BIT STEEL
Andrews Steel Co.

UNDERREAMER CUTTER STEEL
Andrews Steel Co.

VACUUM PUMPS
Bessemer Gas Engine Co.
Chicago Pneumatic Tool Co.
Sullivan Machinery Co.

VALVES
Continental Supply Company
Darling Valve & Mfg. Co.
The Charles N. Hough Mfg. Co.
Hughes Tool Co.
Kerotest Mfg. Company
Ludlow Valve Mfg. Co.
The Lunkenheimer Company
Metric Metal Works
Norris Bros.
Northrup Equipment Company
Smith Separator Co.
Southern Brass Mfg. & Plating Company
Peden Iron & Steel Company
Westcott Valve Mfg. Co.

VALVES, Gate
Hughes Tool Co.
Kerotest Mfg. Company
The Lunkenheimer Company

VALVES, Drilling and Refining
Hughes Tool. Co.
Kerotest Mfg. Company

VALVES AND FITTINGS
Continental Supply Company
Darling Valve & Mfg. Co.
D & B Pump & Supply Co.
Hercules Supply Co.
Hughes Tool Co.
Jarecki Mfg. Co.
Kerotest Mfg. Company
Kerotest Mfg. Company
Ludlow Valve Mfg. Co.
Lufkin Foundry & Machine Co.
The National Supply Cos.
Peden Iron & Steel Company
Republic Supply Co.
United Iron Works

VENTS
Westcott & Greis
Oil Conservation Engineering Co.

WALKING BEAMS
International Derrick & Equipment Co.
Lee C. Moore & Co., Inc.

WELL SHOOTERS
Eastern Torpedo of Ohio Co.

WORKING BARRELS
Axelson Machine Co.
Continental Supply Co.
D & B Pump & Supply Co.
Howard Smith Company
Northrup Equipment Company
Peden Iron & Steel Company
Republic Supply Co.
The Charles N. Hough Mfg. Co.
Southern Brass Mfg. & Plating Company

WATER GAUGES
Metric Metal Works
J. E. Shaffer Company
Smith Separator Co.

WATER CANS
H. P. Gott Mfg. Co.

WATER SOFTENING COMPOUNDS
Ward Chemical Co.

WIRE ROPE
American Cable Co.
Bridgeport Machine Co.
Continental Supply Company
Hercules Supply Co.
International Supply Co.
Peden Iron & Steel Company
Regan Forge & Engineering Co.
Republic Supply Co.
The National Supply Cos.
Wickwire Spencer Steel Corp.
Williamsport Wire Rope Co.

WIRE ROPE FITTINGS
American Cable Co.

WIRE ROPE SLINGS
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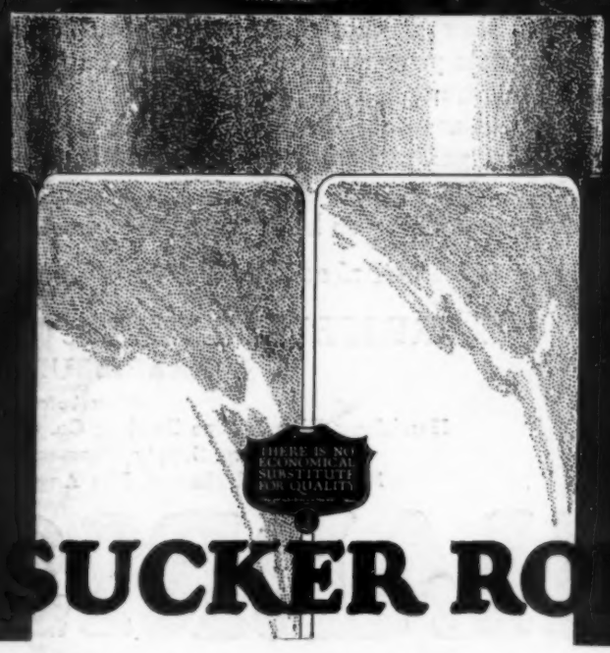

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